AUSTRALIAN AGENCY for INTERNATIONAL DEVELOPMENT

AGRICULTURAL SYSTEMS OF PAPUA NEW GUINEA

Working Paper No. 2

EAST SEPIK PROVINCE

TEXT SUMMARIES, MAPS, CODE LISTS AND VILLAGE IDENTIFICATION

B.J. Allen, R.L. Hide, R.M. Bourke, D. Fritsch, R. Grau, E. Lowes, T. Nen, E. Nirsie, J. Risimeri and M. Woruba

REVISED and REPRINTED 2002

THE AUSTRALIAN NATIONAL UNIVERSITY

PAPUA NEW GUINEA DEPARTMENT OF AGRICULTURE AND LIVESTOCK

UNIVERSITY OF PAPUA NEW GUINEA

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Correct Citation:
Allen, B.J., Hide, R.L., Bourke, R.M., Fritsch, D., Grau, R., Lowes, E., Nen, T., Nirsie, E., Risimeri, J. and Woruba, M. (2002). *East Sepik Province: Text Summaries, Maps, Code Lists and Village Identification*. Agricultural Systems of Papua New Guinea Working Paper No. 2. Land Management Group, Department of Human Geography, Research School of Pacific and Asian Studies, The Australian National University, Canberra. Revised edition.

National Library of Australia Cataloguing-in-Publication Entry:
East Sepik Province: text summaries, maps, code lists and village identification.
Rev. ed.
ISBN 0 9579381 2 8
1. Agricultural systems – Papua New Guinea – East Sepik Province.
2. Agricultural geography – Papua New Guinea – East Sepik Province.
3. Agricultural mapping – Papua New Guinea – East Sepik Province.
I. Allen, Bryant James. II. Australian National University. Land Management Group.
(Series: Agricultural systems of Papua New Guinea working paper; no. 2).
630.99575

Cover Photograph:
The late Gore Gabriel clearing undergrowth from a pandanus nut grove in the Sinasina area, Simbu Province (R.L. Hide).

PREFACE

Acknowledgments

The following organisations have contributed financial support to this project: The Research School of Pacific and Asian Studies, The Australian National University; The Australian Agency for International Development; the Papua New Guinea-Australia Colloquium through the International Development Program of Australian Universities and Colleges and the Papua New Guinea National Research Institute; the Papua New Guinea Department of Agriculture and Livestock; the University of Papua New Guinea; and the National Geographic Society, Washington DC.

In the East Sepik Province, valuable assistance was given by the East Sepik Province Department of Primary Industry; Hap and Glady Skinner, Summer Institute of Linguistics, Maprik; Trevor Robinson, Missionary Aviation Fellowship, Wewak; the PNG Institute of Medical Research; and Margaret Heyward, Wewak.

Technical advice and encouragement have been provided throughout the project by John McAlpine, Gael Keig and Sue Cuddy, Australian Commonwealth Scientific and Industrial Research Organization.

Support and advice have been received from Geoff Humphreys and Harold Brookfield of the Land Management Project, and Gerard Ward (formerly Director), Research School of Pacific Studies, The Australian National University. Brookfield's (1971) study of Melanesian agricultural systems has been particularly influential.

The Papua New Guinea Agricultural Systems Project was developed from two previous studies. Michael Bourke began mapping Papua New Guinea agricultural systems in the 1970s while a Senior Horticulturalist with the PNG Department of Primary Industry (Bourke 1976). Robin Hide created an annotated bibliography of information on Papua New Guinea agricultural systems while working with the CSIRO PNGRIS group (Hide and Cuddy 1988).

Participants

The following persons participated in the production of this paper:

Australian National University: Bryant Allen, Michael Bourke, Robin Hide (conceptualisation, field mapping, data preparation, writing); Robin Grau (GIS management, ARC/INFO, map preparation); Daniel Fritsch (computer programming and database management); Elanna Lowes, Claudia Camarotto, Anne Cochrane, Vivienne Laynne (research assistance); Yvonne Byron (editorial assistance); Merv Commons (technical assistance).

Papua New Guinea Department of Agriculture and Livestock: Michael Allen, Ted Sitapai, Balthazar Wayi (coordination and planning); Jacob Alkane, Killian Anosa, Moses Woruba (field mapping).

East Sepik Province Division of Primary Industry: Jimmy Risimeri, Eroan Nirsie, Vincent Sani (field mapping).

Papua New Guinea National Research Institute: Wari Iamo (coordination and funding); Thomas Nen (field mapping).

Field Survey

A number of agricultural surveys were conducted prior to the main MASP surveys. In 1970-71, B. J. Allen spent 15 months conducting other studies in the Dreikikir area, with more specific agricultural surveys over a three month period in 1978-79. A rapid survey was conducted in the Maprik and Wosera region in October 1974; and a two week agricultural survey in the Wosera area as part of a larger RRA in September 1986. A two week survey was made on the formal and informal settlement blocks in the Angoram area in April 1989. The main survey was conducted in July 1991. Two parties surveyed the region inland from Wewak, covering the Wewak-Maprik-Wosera-Dreikikir-Nuku-Lumi region, as well as the islands off Wewak. Another party spent a week on the Sepik, Keram and Yuat Rivers. The work of Margaret Quinn on agricultural systems provided a foundation for the work in this province. Details of the surveys are given in the section Survey Description for each agricultural system.

Revised and reprinted version

The Mapping Agricultural Systems Project database was revised in late 1998 (see Introduction to Working Paper Number 1). This working paper was reprinted in 2002. Karen Lummis, Tess McCarthy, Natalie Stuckings, Laura Vallee and Amber Pares were responsible for the production of the revised paper.

CONTENTS

Contents (Continued)

1. INTRODUCTION

The major purpose of the Papua New Guinea Agricultural Systems Project is to produce information on small holder (subsistence) agriculture at provincial and national levels. Information is collected by field observation, interviews with villagers and reference to published and unpublished documents. The information is entered into a computer database (dBase IV), from where it is transferred to a mapping program (ARC/INFO). Methods are described by Bourke et al. (1993). This paper contains a written summary of the information on the Agricultural Systems in this Province, maps of selected agricultural features, a complete listing of all information in the database in coded form, and lists of villages with National Population Census codes, indexed by Agricultural Systems. This information will eventually be available on disk as a map-linked database suitable for use on a personal computer.

Identification of agricultural systems and subsystems

An Agricultural System is identified when a set of similar agricultural crops and practices occur within a defined area. Six criteria are used to distinguish one system from another:

1. Fallow type (the vegetation which is cleared from a garden site before cultivation).

2. Fallow period (the length of time a garden site is left unused between cultivations).

3. Cultivation intensity (the number of consecutive crops planted before fallow).

4. The staple, or most important, crops.

5. Garden and crop segregation (the extent to which crops are planted in separate gardens; in separate areas within a garden; or are planted sequentially).

6. Soil fertility maintenance techniques (other than natural regrowth fallows).

Where one or more of these factors differs significantly and the differences can be mapped, then a separate system is distinguished.

Where variation occurs, but is not able to be mapped at 1:500 000 scale because the areas in which the variation occurs are too small or are widely dispersed within the larger system, a subsystem is identified. Subsystems within an Agricultural System are allocated a separate record in the database, identified by the Agricultural System number and a subsystem number.

Sago is a widespread staple food in lowland Papua New Guinea. Sago is produced from palms which are not grown in gardens. Most of the criteria above cannot be applied. In this case, systems are differentiated on the basis of the staple crops only.

Relationship to PNGRIS

The Papua New Guinea Resource Information System (PNGRIS) contains information on the natural resources of PNG (Bellamy 1986). However PNGRIS contains no information on agricultural practices, other than an assessment of land use intensity based on air photograph interpretation by Saunders (1993), and ECOPHYS which is concerned with predicted crop performance in a specific environment (Hackett 1988). The Agricultural Systems Project is designed to provide detailed information on agricultural practices and cropping patterns as part of an upgraded PNGRIS geographical information system. For this reason the Agricultural Systems database contains almost no information on the environmental settings of the systems, except for altitude and slope. The layout of the text descriptions, the database code files and the village lists are modelled on PNGRIS formats (Cuddy 1987).

The mapping of Agricultural Systems has been carried out on the same map base and scale as PNGRIS (Tactical Pilotage Charts, 1:500 000). It is also done within the areas of agricultural land use established by Saunders (1993) from aerial photography. Except where specifically noted, Agricultural Systems boundaries have been mapped without reference to PNGRIS Resource Mapping Unit (RMU) boundaries. Agricultural Systems are defined at the level of the Province (following PNGRIS) but their wider distribution is recognised in the database by cross-referencing systems which cross provincial borders.

A preliminary view of the relationships between RMUs and the Agricultural Systems in this Province can be obtained from the listing of villages by Agricultural System, where RMU numbers are appended (Section 6.3).

Note for reprinted edition

Most of the fieldwork for this project was conducted over a six year period (late 1990 to late 1996). Over this period, a number of minor inconsistencies arose in data classification and presentation. As well, some changes occurred in conventions for the text fields and in the definitions of data fields, for example, for seasonality, fencing and burning. These changes were noted in the Preface of the Provincial Working Papers (first editions) as they occurred. One of the more important changes was that the cutoff points for the classification of cash earning activities were applied more consistently. Because of these inconsistencies and changes in definitions, it was necessary to revise the database so that it was consistent for all 19 provinces and to incorporate changes in agriculture systems since the original papers were produced.

Most changes, as distinct from definitional changes, relate to cash income. The revisions were done in late 1998. The largest number of changes occurred in the first four provincial working papers: East Sepik, West Sepik, Western and Gulf Provinces. Papers for the five Island Region provinces required the least number of changes. Agricultural systems that cross provincial boundaries have been adjusted so that the information is identical on both sides of the boundary, apart from some minor differences in some of the text fields. However the notes have not been updated to incorporate new publications since the Working Papers were completed.

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Smith, T., G. Keig, J. Marks and R. Grau 1992 Summary Results by Environmental Zone from the 1982-3 National Nutrition Survey of Papua New Guinea: Implications for Future Survey Design. Papua New Guinea Institute of Medical Research, Goroka.

2. DATABASE STRUCTURE, DEFINITIONS AND CODES

Information on agricultural systems is stored in a database, one record per agricultural system (or subsystem where identified) and 108 fields per record. This section lists the field ***names*** and their database abbreviations **[NAMES]**. Summary descriptions, explanatory notes and variable codes are given for each field.

LOCATION AND IDENTIFICATION

1. Provincial Identification **[PROVINCE]:** A two digit National Population Census code. Eg. code 14 = East Sepik Province. Provincial codes are listed in Appendix A.1.

2. System Identification **[SYSTIDNO]:** A two digit number identifying the agricultural system within this province. Eg. code 01 = System 01. Numbers are not assigned to systems within a province in any particular order.

3. Agricultural System **[AGSYST]:** Systems are also identified by a unique Papua New Guinea-wide four digit number. The first two digits are the National Population Census provincial code and the second two digits are the system identification number. Eg. 1401 = System 01 in the East Sepik Province.

4. Agricultural Subsystem **[SUBSYSIDNO]:** Subsystems are identified by a single digit. When referred to in the text they are preceded by the agricultural system number and a hyphen. Eg. 1418-1 is Subsystem 1 of System 1418.

5. Number of Subsystems **[NUMSUBSYS]:** A single digit specifying the number of subsystems that occur within this System.

6. District **[DISTRICT]:** The 1990 National Population Census code for the District within which the System is located. More than one District may be listed. District codes are listed in Appendix A.2.

7. Census Divisions **[CENSUSDIV]:** The 1980 National Population Census code for the Census Divisions that occur within the System. Census Division codes for this Province are listed in Appendix A.2.

ENVIRONMENTAL

8. Lowest Altitude **[ALTLOW]:** The lowest altitude, in metres (rounded), to which the System extends.

9. Highest Altitude **[ALTHIGH]:** The highest altitude, in metres (rounded), to which the System extends.

10. Garden Slope **[SLOPE]:** The average slope of gardens in the System.

1	Flat	(<2^{o})
2	Gentle	(2-10^{o})
3	Steep	(10-25^{o})
4	Very steep	(>25^{o})
5	Multiple classes	

***11. Survey Description* [SURVDESC]:** A text description of the areas visited or not visited within the system, the length of time spent in different areas, traverses undertaken, the mode of transport used, the month and year of the survey, and the sources of any documentary information used.

***12. Summary Description* [SYSSUMM]:** A concise text description of the agricultural system, and subsystems (if any), focussed on the occurrence of the major distinguishing criteria.

***13. System Boundary Definitions* [BOUNDDEF]:** A brief description of how the boundaries between systems were identified and mapped. The boundaries between agricultural and non-agricultural land use were taken from Saunders (1993).

***14. Systems Crossing Provincial Borders* [OTHPROV]:** A logical field (yes/no) which indicates whether the System crosses a provincial border.

***15. Same System in Adjacent Province* [PROVSYS]:** A listing of AGSYST numbers (see Field 3 above) of up to two systems in adjacent provinces which are identical to this system, for systems which cross provincial borders.

***16. Subsystem Extent* [SUBSYSEXT]:** An estimate of the proportion of the area of the total system occupied by a subsystem. In the case of there being no subsystems this field is listed as 100 per cent.

1	25 per cent
2	50 per cent
3	75 per cent
4	100 per cent

***17. Type of Fallow Vegetation Cleared* [FALLTYPE]:** The predominant type of vegetation cleared from garden sites at the beginning of a new period of cultivation. Where short fallows are used (see Field 18 below), fallow type refers to the vegetation cleared after a long fallow.

1	Short grass (*eg. kunai < 1.5 m tall*)
2	Tall grass (*eg. Miscanthus or Saccharum > 1.5 m tall*)
3	Grass and woody regrowth *(dense short or tall grass and short woody regrowth*)
4	Short woody regrowth (*shrubs/trees < 10 m tall*)
5	Tall woody regrowth (*trees > 10 m tall*)
6	Forest (*no indication of previous use*)
7	No long fallow
8	Savanna *(Scattered woody growth with grass ground cover)*

***18. Use of Short Fallows* [SHORTFALL]:** A presence and significance measure which indicates whether short fallows are used. Short fallows are brief periods of less than 12 months between plantings during which land is left fallow.

***19. The Long Fallow Period* [FALLPER]:** An estimate of the length of time (greater than 12 months) land is left to revert to regrowth, before it is cultivated again. Class 0 refers to situations where very long cropping intervals (40 plantings or more) make long fallows not significant.

0	Not significant
1	1 to 4 years
2	5 to 15 years
3	Greater than 15 years

***20. Cropping Intensity* [CROPINT]:** The number of times staple crops are planted in the main gardens before those gardens are returned to a long fallow. Short fallows of less than 12 months (see Field 18 above) are excluded for this purpose: they may occur between plantings without affecting the classification. The class 'More than 40 plantings', refers to situations where land has been planted continuously without a long fallow since the Pacific War (1942-45) or longer. In such cases Field 19, Long Fallow Period, is classed as 'Long fallow period not significant'.

1	1 planting only
2	2 plantings
3	3 to 5 plantings
4	6 to 14 plantings
5	15 to 40 plantings
6	More than 40 plantings

CROP COMPONENTS

***21. The Dominant Staple Crops* [DOMSTAP]:** The most important staple food crops grown in the subsystem. A major staple is defined as a crop estimated to cover more than one-third of staple garden area, and therefore no more than 3 dominant staples may be identified for a system. An important exception occurs when sago is the staple. Sago is extracted from palms which are not cultivated in gardens. In the text accounts (System Summaries and Notes), dominant staples are described as the '*most important crops*'.

***22. The Subdominant Staple Crops* [SUBSTAP]:** Staple food crops of lesser importance grown in the subsystem. A subdominant staple is defined as a crop estimated to cover more than 10 per cent of a staple garden area; up to six crops may be listed. An important exception occurs when sago is the staple. Sago is extracted from palms which are not cultivated in gardens. In the text accounts (System Summaries and Notes), subdominant staples are described as '*important crops*'.

***23. All Staple Crops* [ALLSTAP]:** A list of up to 10 staple crops including crops classed as dominant and subdominant, as well as other staple crops which occur commonly. In the text accounts (System Summaries and Notes), staple crops which are classified as neither dominant nor subdominant are described as '*other crops*'.

01	Mixed staple (no dominant staple: a mix of some or all of: banana, taro, sweet potato Chinese taro, yam, cassava and corn)		
02	Banana *(Musa* cvs*)*	13	Taro *(Colocasia esculenta*)
03	Breadfruit *(Artocarpus altilis)*	14	Yam *(Dioscorea alata*)
04	Cassava *(Manihot esculenta)*	15	Yam *(Dioscorea esculenta*)
05	Chinese taro *(Xanthosoma sagittifolium)*	16	Yam *(Dioscorea pentaphylla*)
06	Coconut *(Cocos nucifera)*	17	Other
07	Corn *(Zea mays)*	18	Queensland arrowroot (*Canna edulis)*
08	Potato *(Solanum tuberosum)*		
09	Sago *(Metroxylon sagu)*	19	Taro (Amorphophallus) *(Amorphophallus paeoniifolius)*
10	Swamp taro *(Cyrtosperma chamissonis)*	20	Yam *(Dioscorea bulbifera)*
11	Sweet potato *(Ipomoea batatas)*	21	Yam *(Dioscorea nummularia)*
12	Taro *(Alocasia macrorrhiza*)		

***24. Other Vegetable Crops* [VEG]:** A list of up to 10 important vegetable crops:

01 Aibika *(Abelmoschus manihot)*
02 Amaranthus *(Amaranthus* spp.*)*
03 Bean, common *(Phaseolus vulgaris)*
04 Bean, lablab *(Lablab purpureus)*
05 Bean, winged *(Psophocarpus tetragonolobus)*
06 Cabbage *(Brassica oleracea var. capitata)*
07 Chinese cabbage *(Brassica chinensis)*
08 Choko tips *(Sechium edule)*
09 Corn *(Zea mays)*
10 Cucumber *(Cucumis sativus)*
11 Ferns
12 Ginger *(Zingiber officinale)*
13 Highland pitpit *(Setaria palmifolia)*
14 Kangkong *(Ipomoea aquatica)*
15 Kumu musong *(Ficus copiosa)*
16 Lowland pitpit *(Saccharum edule)*
17 Nasturtium *(Nasturtium* spp.*)*
18 Oenanthe *(Oenanthe javanica)*
19 Peanuts *(Arachis hypogaea)*
20 Pumpkin fruit *(Cucurbita moschata)*
21 Pumpkin tips *(Cucurbita moschata)*
22 Rungia *(Rungia klossii)*
23 Tulip *(Gnetum gnemon)*
24 Valangur *(Polyscias* spp.*)*
25 Balbal *(Erythrina variegata)*
26 Bamboo shoots
27 Bean, snake *(Vigna unguiculata)*
28 Spring onion *(Allium cepa var. cepa)*
29 Sweet potato leaves *(Ipomoea batatas)*
30 Taro leaves *(Colocasia esculenta)*
31 Watercress *(Nasturtium officinale)*
32 Other
33 Bean, lima *(Phaseolus lunatus)*
34 Bottle gourd *(Lagenaria siceraria)*
35 Dicliptera *(Dicliptera papuana)*
36 Kalava *(Ormocarpum orientale)*
37 Karakap *(Solanum nodiflorum)*
38 Basil *(Ocimum basilicum)*
39 Bean leaves *(Phaseolus* spp.)
40 Cassava leaves *(Manihot esculenta)*
41 Chilli leaves *(Capsicum frutescens)*
42 Eggplant *(Solanum melongena)*
43 Pigeon pea *(Cajanus cajan)*
44 Tomato *(Lycopersicon esculentum)*

***25. Fruit Crops* [FRUIT]:** A list of up to 8 important fruits grown:

01 Avocado (*Persea americana)*
02 Banana *(Musa* cvs*)*
03 Bukabuk (*Burckella obovata)*
04 Coastal pandanus *(Pandanus tectorius)*
05 Malay apple *(Syzygium malaccense)*
06 Mandarin *(Citrus reticulata)*
07 Mango *(Mangifera indica)*
08 Marita pandanus *(Pandanus conoideus)*
09 Orange (*Citrus sinensis)*
10 Passionfruit, banana *(Passiflora mollissima)*
11 Passionfruit, other *(Passiflora* spp.*)*
12 Pawpaw *(Carica papaya)*
13 Pineapple *(Ananas comosus)*
14 Rambutan *(Nephelium lappaceum)*
15 Sugar *(Saccharum officinarum)*
16 Ton *(Pometia pinnata)*
17 Watermelon *(Citrullus lanatus)*
18 Other
19 Custard apple *(Annona squamosa)*
20 Golden apple *(Spondias cytherea)*
21 Granadilla (*Passiflora quadrangularis)*
22 Grapefruit (*Citrus paradisi)*
23 Guava (*Psidium guajava)*
24 Lemon (*Citrus limon)*
25 Lime *(Citrus aurantifolia)*
26 Parartocarpus *(Parartocarpus venenosa)*
27 Pomelo *(Citrus maxima)*
28 Pouteria *(Pouteria maclayana)*
29 Raspberry *(Rubus* spp.)
30 Soursop *(Annona muricata)*
31 Tree tomato *(Cyphomandra betacea)*
32 Watery rose apple *(Syzygium aqueum)*
33 Governor's plum *(Flacourtia indica)*
34 Lovi-lovi *(Flacourtia inermis)*
35 Mon *(Dracontomelon dao)*
36 Rukam *(Flacourtia rukam)*
37 Ficus *(Ficus* spp.)

***26. Nut Crops* [NUT]:** A list of up to 5 important nuts grown or collected:

01	Breadfruit *(Artocarpus altilis)*	09	Karuka, wild *(Pandanus brosimos)*
02	Candle nut *(Aleurites moluccana)*	10	Okari *(T. kaernbachii/ T. impediens*)
03	Castanopsis *(Castanopsis acuminatissima)*	11	Sis *(Pangium edule)*
		12	Pao *(Barringtonia* spp.)
04	Coconut *(Cocos nucifera)*	13	Tulip *(Gnetum gnemon)*
05	Finschia *(Finschia chloroxantha)*	14	Other
06	Galip *(Canarium indicum*)	15	Polynesian chestnut *(Inocarpus fagifer)*
07	Java almond *(Terminalia catappa*)		
08	Karuka, planted *(Pandanus julianettii)*	16	Cycad *(Cycas* spp.)
		17	Entada *(Entada scandens)*
		18	Dausia *(Terminalia megalocarpa)*

***27. Narcotic Crops* [NARC]:** A list of up to 5 important narcotics grown:

1	Betel nut, highland *(Areca macrocalyx)*
2	Betel nut, lowland *(Areca catechu)*
3	Betel pepper, highland (*Piper gibbilimbum*)
4	Betel pepper, lowland *(Piper betle)*
5	Tobacco *(Nicotiana tabacum)*
6	Kava *(Piper methysticum)*

FORMS OF GARDEN AND CROP SEGREGATION

***28. Garden Segregation* [GARDSEG]:** A presence and significance measure of whether individual staple food crops are planted in different gardens. A garden is a contiguous area of land planted with crops under the management of a social unit such as a family or a household. If some gardens are sited in different vegetation zones, and have different fallow periods, cultivation periods or other agronomic characteristics, then they are assigned to a separate subsystem.

All presence and significance measures are coded as follows:

0	None
1	Minor or insignificant
2	Significant
3	Very significant

***29. Crop Segregation* [CROPSEG]:** A presence and significance measure of whether individual staple food crops are planted separately in different parts of the same garden.

***30. Crop Sequences* [CROPSEQU]**: A presence and significance measure of whether the harvesting of one crop species is usually followed by the planting of another, eg. yams followed by sweet potato, or sweet potato followed by peanuts followed by sweet potato (see also Field 33 below).

***31. Mixed Vegetable Gardens* [MIXGARD]:** A presence and significance measure of whether mixed gardens are used. A mixed garden is typically a garden which is subsidiary to that containing the main staple(s). It is planted with a wide range of either subdominant staples and/or other vegetables. It may or may not be distinguished from the main garden types by different fallow and agronomic techniques.

***32. Household Gardens* [HOUSGARD]:** A presence and significance measure of whether house gardens are used. A house garden is typically a garden that is small relative to the main gardens, is located near houses, and which contains a variety of crops. Also known as door yard or kitchen gardens.

SOIL FERTILITY MAINTENANCE TECHNIQUES

33. Legume Rotation **[LEGUMROT]:** A presence and significance measure of whether a leguminous crop (eg. peanuts or winged bean) is grown between plantings of main food crops.

34. Planted Tree Fallow **[TREEFALL]:** A presence and significance measure of whether tree species (eg. *Casuarina oligodon* or *Parasponia* spp.) are planted into gardens or fallows for the stated purpose of improving soil quality during subsequent cultivations. This measure excludes the practice of planting fruit tree species into gardens and fallows, but does not exclude the planted trees being used for timber or firewood.

35. The Use of Compost **[COMPOST]:** A presence and significance measure of whether organic matter is placed beneath the surface of the soil.

36. The Use of Animal Manure **[MANURE]:** A presence and significance measure of whether animal manure is placed on or in the soil. The measure does not include the deposition of manure by the animals themselves, eg. pigs tethered in gardens.

37. The Use of Island Beds: **[ISLBED]:** A presence and significance measure of whether island beds are used. Island beds are beds of soil on which crops are planted and which are raised above the level of a surrounding area of standing or slowly moving water.

38. The Contribution of Silt from Flooding **[SILT]:** A presence and significance measure of whether silt from floods is deposited either regularly or sporadically on the soil surface in gardens. It is assumed the flooding is of natural causes, but the measure does not exclude deliberate manipulation of stream channels in order to enhance the delivery of silt or for the partial control of flood waters.

39. The Use of Inorganic Fertiliser **[FERT]:** A presence and significance measure of whether inorganic fertiliser is applied to gardens. This measure excludes the use of inorganic fertiliser on cash crops, such as coffee or vegetables.

OTHER AGRICULTURAL PRACTICES

40. The Placing of Pigs in Gardens **[PIGSIN]:** A presence and significance measure of whether pigs are placed in gardens between plantings. Pigs may be placed in gardens between plantings for a number of stated reasons, eg. to eat earthworms, to eat unharvested crops, or to till the soil. This measure excludes the deliberate breaking of fences to allow pigs to forage after the cropping phase.

41. Burning **[BURN]:** A presence and significance measure of whether fallow vegetation cleared and cut in a new garden site is burnt before the planting of the staple crops. The measure includes the burning of material which has been heaped. Significance takes into account the frequency of burning relative to the cropping intensity. So, for example, if the majority of the fallow material cleared from the site is burnt at the initial clearing of a garden, and only one or two plantings are made before fallowing, burning is Very Significant. If the same thing occurs at clearing, but a large number of plantings are made before the next long fallow, with little or no burning between plantings, burning is Minor.

***42. Soil Tillage* [TILL]:** A presence and significance measure of whether soil in the staple food gardens is tilled before planting. Tillage includes the breaking up, or turning over, of the whole or the major part of the soil on the garden surface. The measure includes tillage in either the first planting and/or subsequent plantings. The formation of soil mounds and beds (see Fields 53-58 below) involves working the soil into a tilth, but in order to distinguish clearly between these processes, mounds and beds are not automatically classified as soil tillage.

***43. The Use of Deep Holing* [HOLE]:** A presence and significance measure of whether deep holing is used. Deep holing is sometimes used in yam cultivation in order to influence the dimensions and shape of the tubers. Deep (> 50 cm) holes are dug, the soil is broken into a fine tilth and the hole re-filled before planting. The use of this technique is usually restricted to the cultivation of *Dioscorea alata.*

***44. Cutting Fallow Vegetation Onto the Crops* [FALLCUT]:** A presence and significance measure of whether crops are planted beneath standing fallow vegetation, and the vegetation is later cut down onto the growing crops.

***45. The Use of Fences* [FENCE]:** A presence and significance measure of whether gardens are fenced. Fences are linear barriers made of wood, bamboo, cane grass or stones, and may incorporate a ditch or a bank. The measure excludes low ridges which form between fields when stones are thrown to the perimeter during cultivation. In the assessment of the significance of fences, the occurrence of fences around every individual garden is given greater significance than one fence around a large number of gardens.

***46. The Use of Irrigation* [IRRIG]:** A presence and significance measure of whether water is applied to crops by the use of channels or aqueducts.

***47. The Use of Mulch* [MULCH]:** A presence and significance measure of whether a mulch is used to cultivate the staple crops. A mulch is organic material which is applied to the soil surface. If the material is placed beneath the soil surface it is defined as a compost (see Field 35 above).

***48. The Seasonality of Main Crops* [SEASMAJ]:** A presence and significance measure of whether the dominant staples (most important food crops) and the subdominant staples (important food crops) are planted at about the same time each year.

***49. The Seasonality of Other Crops* [SEASMIN]:** A presence and significance measure of whether other staple crops and vegetable crops are planted at about the same time each year.

***50. The Use of Drains* [DRAIN]:** A presence and significance measure of whether ditches are used in and around gardens to remove surface water or to lower the groundwater table.

***51. The Use of Soil Retention Barriers* [SOILRET]:** A presence and significance measure of whether structures (pegged logs, fences or hurdles, stone walls) are constructed along the contour or below individual plants, in order to prevent or reduce the down slope movement of soil.

***52. The Use of Staking* [STAKE]:** A presence and significance measure of whether crops are trained or tied up stakes, trellises or standing dead trees to lift them off the soil surface. The practice is usually applied to yams (*Dioscorea* spp.), beans, sugarcane, and sometimes gourds, cucumber and choko.

MOUNDING TECHNIQUES

In many parts of Papua New Guinea the soil is formed into circular mounds of varying dimensions and crops are planted on them. Mounding should not be confused with composting (see Field 35 above). Mounds may or may not contain compost and composting may take place in the absence of mounds. Mounds are usually re-formed at each new planting. Mound formation usually involves extensive soil disturbance. The effect can be similar to complete soil tillage (see Field 42 above).

The following fields contain presence and significance measures of whether mounds of the specified dimensions are used in the system.

53. Very Small Mounds **[VSMMOUND]:** Mounds up to 10 cm high.

54. Small Mounds **[SMMOUND]:** Mounds 10 to 40 cm high.

55. Medium Sized Mounds **[MOUND]:** Mounds 40-70 cm high and between 1 m and 2.5 m in diameter.

56. Large Mounds **[LRGEMOUND]:** Mounds > 70 cm high and > 2.5 m in diameter.

GARDEN BED TECHNIQUES

In some locations the soil is also raised into beds and crops planted on them. Bed formation usually involves extensive soil disturbance. The effect can be similar to complete soil tillage (see Field 42 above). Two shapes of beds are distinguishable:

57. Square Beds **[BEDSQ]:** Square beds are constructed by digging shallow ditches typically 2 to 4 metres apart on a grid layout, and throwing the soil removed onto the surface to form a bed. The outcome is a characteristic chequerboard or gridiron pattern in gardens.

58. Long Beds **[BEDLONG]:** Long beds are constructed by digging shallow ditches down slope typically 2 to 4 metres apart and over 10 metres in length, and throwing the soil removed to the centre to form a bed.

59. Mechanical Soil Tillage **[MECHAN]:** The use of tractors or hand-held cultivators in the preparation of a garden site for food crops. The measure includes the use of machinery in the cultivation of crops for sale.

CASH EARNING ACTIVITIES

A presence and significance measure of the importance of the following common rural cash income sources. The list includes sources related to agricultural or land based production from the farmers' own resources.

60. Animal Products **[ANSKIN]:** The sale of animal skins, furs and bird plumes, but not fresh meat.

61. Betel Nut **[BETEL]:** The sale of betel nuts (*Areca catechu* or *A. macrocalyx)* and associated items like pepper and lime.

62. Cardamom **[CARDAM]:** The sale of cardamom (*Elettaria cardamomum).*

63. Cattle **[CATTLE]:** The sale of cattle as live beasts or as fresh meat.

***64. Chillies* [CHILLIE]:** The sale of dried chillies (*Capsicum frutescens).*

***65. Cocoa* [COCOA]:** The sale of cocoa (*Theobroma cacao)* beans.

***66. Copra* [CNUT]:** The sale of copra and nuts from coconut palms (*Cocos nucifera).*

***67. Arabica Coffee* [COFFARAB]:** The sale of Arabica coffee (*Coffea arabica*).

***68. Robusta Coffee* [COFFROB]:** The sale of Robusta coffee (*Coffea canephora*).

***69. Crocodile Products* [CROC]:** The sale of freshwater and saltwater crocodile (*Crocodylus* spp.) skins or meat, from managed and wild animals.

***70. Firewood* [FIREWOOD]:** The sale of firewood.

***71. Fish* [FISH]:** The sale of fresh or smoked freshwater or saltwater fish, shellfish or crustacea.

***72. Fresh Food:* [FOOD]:** The sale of fresh vegetables, fruits, nuts and fresh or smoked meat from domesticated or wild animals.

***73. Oil Palm* [OILPALM]:** The sale of palm oil fruit (*Elaeis guineensis).*

***74. Potato* [POTATO]:** The sale of Irish potatoes (*Solanum tuberosum).*

***75. Pyrethrum* [PYRETH]:** The sale of dried pyrethrum flowers (*Chrysanthemum cinerariaefolium).*

***76. Rice* [RICE]:** The sale of rice (*Oryza sativa).*

***77. Rubber* [RUBB]**: The sale of latex from rubber trees (*Hevea brasiliensis).*

***78. Sheep and Wool* [SHEEP]:** The sale of sheep as live animals, or meat and the sale of wool.

***79. Tea* [TEA]:** The sale of unprocessed tea (*Camellia sinensis).*

***80. Tobacco* [TOBACCO]:** The sale of the dried tobacco leaf (*Nicotiana tabacum).*

***81-82. Other* [OTHER1] [OTHER2]:** Other unlisted sources of cash include the sale of copal gum (*Agathis* sp.), massoi bark (*Massoia aromatica*), tigasso oil (*Campnosperma* sp.), salt extracted from plants or natural springs and deposits, mineral oil, bêche-de-mer, insects and butterflies, live birds, marsupials, pigs and horses, house building materials including thatching and sheets of woven cane, canoe hulls, clothing, weapons, string bags, carvings and artefacts. This category excludes other sources of cash income such as wages and salaries, logging or mining royalties, gold mining, banditry, gambling and remittances. These are mentioned in Notes (Field 83) if they are important.

***83. Further Notes* [NOTES]:** Additional notes on particularly outstanding features of the system and further information drawn from published and unpublished documents.

SURVEY DETAILS

Fields ***84-101*** contain details of dates when observations were made of the system for the purposes of this project and the names of the persons who made the observations. Up to three survey visits can be accommodated. The field names are:

Month of a short visit [**SVDATMON**]: Eg. 01 = January.
Year of a short visit [**SVDATYR**]: Eg. 1992.
Period of a longer term study [**SVPERYRA**]: Eg. 1971-72.
Person making the visit [**SURVNAME**]: Initials of person(s). Full names are given in a Key on the relevant page in Section 5.

The type of survey [**SURVTYPE**]

1	Very brief visit to one place (less than an hour), or interviews
2	Short visit to a few places (less than 1 day)
3	Visits to several places (1 to 3 days)
4	Multiple visits to many places (4 to 15 days)
5	Multiple visits to many locations over several years (more than 15 days)

102. Information From the National Nutrition Survey 1982-83 **[NNS]:** The National Nutrition Survey 1982/83, selected families in villages across most of the country from a sampling frame based on environments drawn from PNGRIS classifications. Amongst other questions, people were asked what foods they had eaten during the previous day (NNS 1982/3). For systems in which more than 10 families were interviewed, responses for particular foods are presented as percentages of the total number of families interviewed. Results are presented only for staple foods, fresh fish and purchased rice. The entry includes the number of families and number of villages surveyed, and the month and year of survey.

This information is more than 10 years old and is independent of the information collected by the Agricultural Systems Project. It should be used carefully (Smith et al. 1992). In some Systems the sample size is small and villages sampled may be restricted to one part of the System. It is possible that Chinese taro (*Xanthosoma sagittifolium*) has been included in the general term 'taro', increasing the importance of taro (*Colocasia esculenta*) and decreasing the importance of Chinese taro. Where diets change seasonally, the results may also be unrepresentative.

103. Main References **[REF]:** References to published and unpublished documents that contain substantial information on agriculture in the System.

104. Other References **[REF2]:** References to published and unpublished documents that contain additional information directly relevant to the Agricultural System.

105. The Area of the System **[AREA]**: The area, in square kilometres, occupied by the System. The figure is calculated by the mapping program ARC/INFO.

106. Total Resident Population 1980 **[TOTPOP]:** The total population resident within the area covered by the System at the time of the 1980 National Population Census. The 1990 National Population Census figures are not used because of questions over their reliability, but the 1990 National Population Census maps are used to locate most Census Units.

107. The Number of People Living Outside the System **[ABSPOPPER]:** An estimate of the proportion of the population absent from villages in the system in 1978-79, expressed as a percentage of the total population. The figure is the difference between the 'total' population and the 'resident' population listed in the 1978-79 Provincial Data System (PDS) Rural Community Register for the Province. The 'total' population is the total number of persons listed in the Village Book and the 'resident' population the number living in the village, or who have been absent for less than 6 months at the time of the census. In some cases 'total' and 'resident' populations in the PDS are the same.

108. The Population Density **[POPDEN]:** The number of persons per square kilometre in 1980, calculated by dividing Field 106 (total population) by Field 105 (area). There are two situations where adjusted figures are given (indicated by "*"). In some systems sago is the staple food and there is little or no agriculture or subsistence is based completely on non-agricultural activities (eg. fishing or trading) and no agricultural land use can be identified. For these systems the area has been adjusted to include a 5 kilometre buffer strip around the system boundary, or centred on settlements where no land use is identified. The 5 kilometre buffer zone is assumed to be the area of non-agricultural land, usually forest, in which wild plants and animals are exploited. In the latter case, settlements are identified with point symbols. The second kind of adjustment occurs where the populations of two adjoining systems, both of which use both systems, are unequally distributed in the two system areas due to the locations of the census units. In such cases, adjusted population density figures are shown (for example, Milne Bay Province Systems 0501 and 0502), with explanations in Notes (Field 83).

109. The Intensity of Land Use **[RVALUE]:** The R value (Ruthenberg 1980, 15) is an estimate of the intensity of land use, derived from the ratio of the Cropping Period in years to the length of the cultivation cycle in years. Cropping Period is estimated from the number of plantings of the staple crops before a long fallow (see Field 20 above). The cultivation cycle is the sum of the Cropping Period and the Long Fallow Period (see Field 19 above). The R value is thus:

$$\frac{\text{Cropping Period} \times 100}{\text{Cropping Period} + \text{Long Fallow Period}}$$

Because in this survey both the cropping period and the long fallow period are described as classes, conversion of the class ranges to single year values is necessary in order to calculate R values. The following conversions are used for most crops:

Cropping period	**Years**	**Long fallow period**	**Years**
1 planting only	1	Not used	0
2 plantings	2	1-4 years	3
3-5 plantings	4	5-15 years	10
6-14 plantings	10	>15 years	20
>14 plantings	20		

Triploid banana or Chinese taro may produce for several years from a single planting. In systems in which these crops are dominant staples or subdominant staples with significant land use, the cropping period is adjusted upwards. The adjustment is based on estimates of how long these crops produce from a single planting before a long fallow. Where there is evidence of a cropping period without a long fallow of longer than 20 years, the cropping period is adjusted upwards, to a maximum of 50 years.

3. AGRICULTURAL SYSTEMS: TEXT SUMMARIES

Text summaries take two forms: those for the first or only subsystem in an Agricultural System, and those for subsequent subsystems.

1. The headers on text summaries for the first or only subsystem in an Agricultural System are as follows:

PROVINCE 15 West Sepik	**AGRICULTURAL SYSTEM No**. 1 **Subsystem No** 1 **of** 1	
Districts 4 Telefomin	**Subsystem Extent** 100%	**Area (sq km)** 1259
Population 8,530	**Population Density** 7 **persons/sq km**	**Population absent** 7%

This header contains information in the top right hand corner on the number of subsystems descriptions which follow.

This header also contains information for the *whole* Agricultural System on Districts, area, population, population density and absenteeism.

2. Headers on text summaries of subsequent subsystems are as follows:

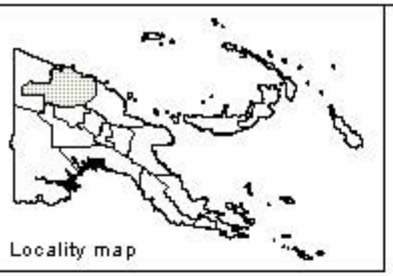
PROVINCE 15 West Sepik	**AGRICULTURAL SYSTEM No**. 3	**Subsystem No** 2 **of** 2
Districts 4 Telefomin	**Subsystem Extent** 25 %	

They contain information on Districts and subsystem extent only.

Headers on second and subsequent pages of summaries are as follows:

PROVINCE 15 West Sepik	**AGRICULTURAL SYSTEM No**. 1	**Subsystem No** 1 **of** 1

EAST SEPIK PROVINCE
Agricultural systems



Locality map

No agriculture

Agricultural system identified by number

Subsystems are present in Systems 5, 13, 18.

30 0 30 Kilometers

Mapping Agricultural Systems Project, Human Geography, ANU; PNG DAL; Geography, UPNG, 1999

PROVINCE 14 East Sepik	**AGRICULTURAL SYSTEM No.** 1	**Subsystem No.** 1 **of** 1
Districts 1 Angoram	**Subsystem Extent** 100 %	**Area (sq km)** 796
Population 981	**Population density** 1 **persons/sq km**	**Population absent** 41 **%**

System Summary

Located at the mouth of the Sepik River, there is no agriculture here except for household gardens. Sago, the most important food, is imported from the surrounding areas (System 1402). Coconuts are grown on the beach ridges. Fish and shellfish are very important foods. The economy is based on the extensive trading of fish and woven bags for sago and tobacco.

Extends across provincial border to System(s) None

Altitude range (m) 0-10 **Slope** Flat (<2 degrees)

CROPS

STAPLES DOMINANT	None
STAPLES SUBDOMINANT	Coconut
STAPLES PRESENT	Coconut
OTHER VEGETABLES	None
FRUITS	None
NUTS	None
NARCOTICS	None

FALLOW & CROPPING PERIOD

FALLOW TYPE	None
SHORT FALLOW	None
LONG FALLOW PERIOD	Not significant
CROPPING PERIOD	None
R VALUE	0 (very low)

GARDEN SEGREGATION

GARDEN SEGREGATION	None
CROP SEGREGATION	None
CROP SEQUENCES	None
MIXED VEGETABLE GARDENS	None
HOUSEHOLD GARDENS	None

SOIL FERTILITY MAINTENANCE

LEGUME ROTATION	None
PLANTED TREE FALLOW	None
COMPOST	None
ANIMAL MANURE	None
ISLAND BED	None
SILT FROM FLOOD	None
INORGANIC FERTILISER	None

CASH EARNING ACTIVITIES

1 Fish	Significant
2 Artefacts	Minor

OTHER AGRONOMIC PRACTICES

Water Management:	
DRAINAGE	None
IRRIGATION	None
Soil Management:	
PIGS PLACED IN GARDENS	None
BURN FALLOW VEGETATION	None
TILLAGE	None
MECHANIZATION	None
DEEP HOLING	None
MULCHING	None
SOIL RETENTION BARRIERS	None
Mounding Techniques:	
VERY SMALL MOUNDS	None
SMALL MOUNDS	None
MOUNDS	None
LARGE MOUNDS	None
Garden Bed Techniques:	
BEDS SQUARE	None
BEDS LONG	None
Other Features:	
FENCES	None
STAKING OF CROPS	None
FALLOW CUT ONTO CROPS	None
SEASONAL MAIN CROPS	None
SEASONAL SEC'DARY CROPS	None

OTHER DOCUMENTATION

Survey description
No ground survey. Aerial reconnaissance in June 1991. Information based on Lipset (1984) and Haantjens et al. (1968).
Boundary definition
The boundaries are the coastline and the limits of the mangrove forests of the Murik Lakes area. Information was taken from Haantjens et al. (1968) and Lipset (1984, 19).

Notes
Artifacts are a significant income source.

National Nutrition Survey 1982/83
25 families from 2 villages were asked in December 1982 what they had eaten the previous day. All reported eating both sago and fresh fish, 48 per cent coconut, 16 per cent sweet potato, 4 per cent cassava and none yam, taro, banana or Chinese taro. 40 per cent reported eating rice. Because there is no agriculture in this system, the consumption of sweet potato was higher than expected.

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PROVINCE 14 East Sepik	**AGRICULTURAL SYSTEM No.** 2	**Subsystem No.** 1 **of** 1
Districts 1 Angoram, 2 Wewak, 3 Maprik, 4 Ambunti	**Subsystem Extent** 100 %	**Area (sq km)** 4960
Population 50,318	**Population density** 10 **persons/sq km**	**Population absent** 23 **%**

System Summary

A very extensive system located in the Aitape, Lumi and Nuku areas of West Sepik Province; and in East Sepik Province, the eastern end of the Prince Alexander Mountains along the north coast and in the Sepik Valley away from the river. The primary source of food everywhere is sago, some of which is planted and some of which is managed, naturally occurring stands. The importance of agriculture differs considerably from place to place, in the size of plots cultivated and in the labour invested in cultivating them. Agriculture is most important in the Torricelli Mountain foothills and at Woginara. Gardens are cleared in fallows of tall woody regrowth, generally more than 15 years old. Fallow vegetation is cut, dried and burnt. Only one planting is made before fallowing. Banana, taro, coconut and Chinese taro are important crops; other crops include yam (D. esculenta and D. alata) and sweet potato. Game and fish are important sources of food, but their significance varies considerably. Food gardens are planted at the end of the drier season.

Extends across provincial border to System(s) 1507

Altitude range (m) 0-800 **Slope** Multiple classes

CROPS

STAPLES DOMINANT	Sago
STAPLES SUBDOMINANT	Banana, Chinese taro, Coconut, Taro (Colocasia)
STAPLES PRESENT	Banana, Chinese taro, Coconut, Sago, Sweet potato, Taro (Colocasia), Yam (D. alata), Yam (D. esculenta)
OTHER VEGETABLES	Aibika, Amaranthus spp., Bean (winged), Corn, Kumu musong, Lowland pitpit, Pumpkin tips, Tulip, Bean (snake)
FRUITS	Mango, Marita pandanus, Pawpaw, Pineapple, Sugarcane, Ton
NUTS	Breadfruit, Galip, Okari
NARCOTICS	Betel nut (lowland), Betel pepper (lowland), Tobacco

FALLOW & CROPPING PERIOD

FALLOW TYPE	Tall woody regrowth
SHORT FALLOW	None
LONG FALLOW PERIOD	>15 years
CROPPING PERIOD	1 planting
R VALUE	5 (very low)

GARDEN SEGREGATION

GARDEN SEGREGATION	Minor
CROP SEGREGATION	Minor
CROP SEQUENCES	None
MIXED VEGETABLE GARDENS	None
HOUSEHOLD GARDENS	Minor

SOIL FERTILITY MAINTENANCE

LEGUME ROTATION	None
PLANTED TREE FALLOW	None
COMPOST	None
ANIMAL MANURE	None
ISLAND BED	None
SILT FROM FLOOD	None
INORGANIC FERTILISER	None

CASH EARNING ACTIVITIES

1 Cocoa	Minor
2 Coffee Robusta	Minor
3 Fresh food	Minor

OTHER AGRONOMIC PRACTICES

Water Management:	
DRAINAGE	None
IRRIGATION	None
Soil Management:	
PIGS PLACED IN GARDENS	None
BURN FALLOW VEGETATION	Very significant
TILLAGE	None
MECHANIZATION	None
DEEP HOLING	Minor
MULCHING	None
SOIL RETENTION BARRIERS	Minor
Mounding Techniques:	
VERY SMALL MOUNDS	None
SMALL MOUNDS	Minor
MOUNDS	None
LARGE MOUNDS	None
Garden Bed Techniques:	
BEDS SQUARE	None
BEDS LONG	None
Other Features:	
FENCES	Minor
STAKING OF CROPS	Minor
FALLOW CUT ONTO CROPS	None
SEASONAL MAIN CROPS	Significant
SEASONAL SEC'DARY CROPS	Significant

OTHER DOCUMENTATION

Survey description

In May 1982, visits to Lumi and Nuku areas (3 days). In July 1991, road traverses from Maprik to Lumi (two parties for 3 days); road traverse from Wewak to Aitape (3 days). In June-July 1991, road traverses from Wewak to Turubu, Angoram, Maprik, Pagwi; and traverses along Sepik, Yuat, Keram Rivers. Aerial reconnaissance in July 1991.

Boundary definition

The boundaries with Systems 1403, 1411 and 1412 were determined from extensive road traverses. South of the Sepik River, it was distinguished from Systems 1413 and 1418 by boat traverses on the Sepik, Keram and Yuat Rivers. The system was distinguished from System 1420 after visits to the Wewak Islands. It is distinguished from System 1415, where agriculture is more important, following Dornstreich (1973, 1977). The boundary with System 1419 was based on a traverse in the Keram River and is somewhat arbitrary.

Notes

This system is distinguished from Systems 1403, 1411, 1412, 1415, 1501/0101 and 1508 where agriculture is more important than here; it is distinguished from System 1417/1504 where agriculture is less important; it is distinguished from the riverine Systems 1413 and 1418 which are innundated annually. The system is very similar to Systems 1419 and 1420 but is distinguished by small differences in the important crops.

The distinguishing feature of this system is the importance of sago as a source of food and the mixture of supplementary agricultural crops. The significance of the agricultural crops varies locally in terms of the size of gardens, the care taken in cultivation and the importance of individual crops. Tulip is everywhere the most common green vegetable. Soil retention barriers (small logs laid along the contour) are used in the Nuku-Lumi area.

Cocoa is the most important source of cash income. Some fresh food and Robusta coffee is also sold. Other sources include: copra (in some coastal locations), Arabica coffee (in the Lumi area), tobacco, fish, chillies, rice (in the Nuku area), chickens, firewood and pigs.

This system occurs in Census Divisions 19, 20, 22, 23, 29, 38, 39, 41, 42, 43, 45, 46, 47, 51, 52, 54, 55, 56 and 57.

National Nutrition Survey 1982/83

535 families from 34 villages were asked in November 1982, or June or August 1983 what they had eaten the previous day. 83 per cent reported eating sago, 62 per cent coconut, 23 per cent sweet potato, 22 per cent banana, 19 per cent taro, 10 per cent yam, 2 per cent cassava and 1 per cent Chinese taro. 26 per cent reported eating rice. 19 per cent reported eating fresh fish. This is similar to the crop pattern except for the lower than expected consumption of Chinese taro, and the higher than expected Sweet potato consumption.

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PROVINCE 14 East Sepik	**AGRICULTURAL SYSTEM No.** 3	**Subsystem No.** 1 **of** 1
Districts 2 Wewak, 3 Maprik	**Subsystem Extent** 100 %	**Area (sq km)** 173
Population 5,773	**Population density** 33 **persons/sq km**	**Population absent** 23 **%**

System Summary

Located inland of Wewak and south of Mt Turu in the Prince Alexander Mountain foothills. Short woody regrowth, 5-15 years old, is cleared and burnt. Taro and yam (D. esculenta) are the most important crops; sago, coconut and banana are important crops; other crops are Chinese taro, sweet potato and yam (D. alata). Crops are segregated within gardens, with yam on the upper slopes with some taro, and taro and Chinese taro on the lower slopes and edges. Two plantings are made before fallow. The second planting is dominated by yam and banana on the upper slopes and Chinese taro and banana on the lower slopes. Sweet potato may also be planted during the second planting. Crops are planted seasonally.

Extends across provincial border to System(s) None

Altitude range (m) 100-300 **Slope** Steep (10-25 degrees)

CROPS

STAPLES DOMINANT	Taro (Colocasia), Yam (D. esculenta)
STAPLES SUBDOMINANT	Banana, Coconut, Sago
STAPLES PRESENT	Banana, Chinese taro, Coconut, Sago, Sweet potato, Taro (Colocasia), Yam (D. alata), Yam (D. esculenta)
OTHER VEGETABLES	Aibika, Amaranthus spp., Bean (winged), Corn, Lowland pitpit, Tulip, Bean (snake)
FRUITS	Mango, Marita pandanus, Pineapple, Sugarcane, Ton
NUTS	Breadfruit
NARCOTICS	Betel nut (lowland), Betel pepper (lowland), Tobacco

FALLOW & CROPPING PERIOD

FALLOW TYPE	Short woody regrowth
SHORT FALLOW	None
LONG FALLOW PERIOD	5-15 years
CROPPING PERIOD	2 plantings
R VALUE	17 (low)

GARDEN SEGREGATION

GARDEN SEGREGATION	None
CROP SEGREGATION	Significant
CROP SEQUENCES	Significant
MIXED VEGETABLE GARDENS	None
HOUSEHOLD GARDENS	Minor

SOIL FERTILITY MAINTENANCE

LEGUME ROTATION	None
PLANTED TREE FALLOW	None
COMPOST	None
ANIMAL MANURE	None
ISLAND BED	None
SILT FROM FLOOD	None
INORGANIC FERTILISER	None

CASH EARNING ACTIVITIES

1 Cocoa	Minor
2 Coffee Robusta	Minor
3 Fresh food	Minor

OTHER AGRONOMIC PRACTICES

Water Management:	
DRAINAGE	None
IRRIGATION	None
Soil Management:	
PIGS PLACED IN GARDENS	None
BURN FALLOW VEGETATION	Very significant
TILLAGE	None
MECHANIZATION	None
DEEP HOLING	None
MULCHING	None
SOIL RETENTION BARRIERS	Minor
Mounding Techniques:	
VERY SMALL MOUNDS	None
SMALL MOUNDS	None
MOUNDS	None
LARGE MOUNDS	None
Garden Bed Techniques:	
BEDS SQUARE	None
BEDS LONG	None
Other Features:	
FENCES	Significant
STAKING OF CROPS	Minor
FALLOW CUT ONTO CROPS	None
SEASONAL MAIN CROPS	Significant
SEASONAL SEC'DARY CROPS	Significant

OTHER DOCUMENTATION

Survey description

In July 1991, a road traverse from Yangoru to Sassoia and Yangoru to Negri (1 day).

Boundary definition

The eastern and southern boundaries with System 1402/1507, and the western boundary with System 1404 were based on road traverses on the Sepik Highway, the Yangoru-Sassoia and Yangoru-Kaboibus roads.

Notes

This system is distinguished from System 1402/1507 where sago is the most important food; and from System 1404 where fallow vegetation is short woody regrowth and grass.

This is the same as Quin's system 3d; she estimated the fallow period as 5 to 8 years (Quin nd, 21). Most new gardens are cleared between July and September. Yam (D. esculenta) is said to be planted more seasonally (October-December) than taro. Soil retention barriers, consisting of poles laid across the slope, are restricted to steeper area.

Cash income sources are cocoa, Robusta coffee, fresh food and cattle. Relatively large plantings of cocoa and coffee were not being harvested in 1991 because of low prices.

National Nutrition Survey 1982/83

46 families from 3 villages were asked in November or December 1982 what they had eaten the previous day. 91 per cent reported eating taro, 76 per cent coconut, 41 per cent sago, 41 per cent banana, 13 per cent yam, 7 per cent sweet potato, 4 per cent Chinese taro, and none cassava. 28 per cent reported eating rice. 2 per cent fresh fish. This is similar to the crop pattern, except for the lower than expected yam consumption.

Main References

Quin, F.M. 1984 Farming systems of East Sepik Province, Papua New Guinea. Unpublished report, East Sepik Rural Development Project, Wewak.

Roscoe, P.B. 1982 People and planning in the Yangoru Subdistrict, East Sepik Province, Papua New Guinea. PhD thesis, University of Rochester, New York.

Other References

Gimbol, C.K. 1989 A survey of cocoa wet bean marketing in Papua New Guinea. Designing Monitoring Systems for Smallholder Agriculture in Papua New Guinea, Working Paper No. 13, Australian Centre for International Agricultural Research, Canberra.

Haantjens, H.A., J.M. Arnold, J.R. McAlpine, J.A. Mabbutt, E. Reiner, R.G. Robbins and J.C. Saunders 1968 Lands of the Wewak-Lower Sepik area, Territory of Papua and New Guinea. Land Research Series No. 22, Commonwealth Scientific and Industrial Research Organization, Melbourne.

PROVINCE 14 East Sepik	**AGRICULTURAL SYSTEM No.** 4	**Subsystem No.** 1 **of** 1
Districts 2 Wewak, 3 Maprik	**Subsystem Extent** 100 %	**Area (sq km)** 254
Population 11,170	**Population density** 44 **persons/sq km**	**Population absent** 25 **%**

System Summary

Located around Yangoru in the Prince Alexander Mountain foothills. Short woody regrowth, 5-15 years old, and short grass (Imperata) fallows are cleared and burnt. Yam (D. esculenta) and taro are the most important crops; sago, coconut and banana are important crops; other crops are Chinese taro and yam (D. alata). Most yams are not staked, but vines are arranged on the ground. Chinese taro is segregated from other crops on the lower slopes and edges of plots. Two plantings are made before fallowing. Taro and yam are planted in the first year. During the second planting yam, taro and sweet potato are common, and lowland pitpit and banana densities are significantly increased. Ton and breadfruit trees are planted in fallows and more recently, betel nut. Garden activity is highly seasonal with clearing from June to August, planting from July to October and harvesting from March to May. Between December and April, sago and Chinese taro become more important as supplementary foods. Soil retention barriers are common.

Extends across provincial border to System(s) None

Altitude range (m) 150-300 **Slope** Multiple classes

CROPS

STAPLES DOMINANT	Taro (Colocasia), Yam (D. esculenta)
STAPLES SUBDOMINANT	Banana, Coconut, Sago
STAPLES PRESENT	Banana, Chinese taro, Coconut, Sago, Sweet potato, Taro (Colocasia), Yam (D. alata), Yam (D. esculenta)
OTHER VEGETABLES	Aibika, Amaranthus spp., Corn, Ginger, Kumu musong, Lowland pitpit, Nasturtium spp., Pumpkin tips, Tulip, Bean (snake)
FRUITS	Mango, Marita pandanus, Pawpaw, Pineapple, Sugarcane, Ton
NUTS	Breadfruit, Galip
NARCOTICS	Betel nut (lowland), Betel pepper (lowland), Tobacco

FALLOW & CROPPING PERIOD

FALLOW TYPE	Grass/woody regrowth
SHORT FALLOW	None
LONG FALLOW PERIOD	5-15 years
CROPPING PERIOD	2 plantings
R VALUE	17 (low)

GARDEN SEGREGATION

GARDEN SEGREGATION	None
CROP SEGREGATION	Minor
CROP SEQUENCES	Significant
MIXED VEGETABLE GARDENS	None
HOUSEHOLD GARDENS	Minor

SOIL FERTILITY MAINTENANCE

LEGUME ROTATION	None
PLANTED TREE FALLOW	None
COMPOST	None
ANIMAL MANURE	None
ISLAND BED	None
SILT FROM FLOOD	None
INORGANIC FERTILISER	None

CASH EARNING ACTIVITIES

1 Cocoa	Significant
2 Fresh food	Minor
3 Tobacco	Minor
4 Pigs	Minor

OTHER AGRONOMIC PRACTICES

Water Management:	
DRAINAGE	None
IRRIGATION	None
Soil Management:	
PIGS PLACED IN GARDENS	None
BURN FALLOW VEGETATION	Very significant
TILLAGE	None
MECHANIZATION	None
DEEP HOLING	None
MULCHING	None
SOIL RETENTION BARRIERS	Significant
Mounding Techniques:	
VERY SMALL MOUNDS	None
SMALL MOUNDS	None
MOUNDS	None
LARGE MOUNDS	None
Garden Bed Techniques:	
BEDS SQUARE	None
BEDS LONG	None
Other Features:	
FENCES	Very significant
STAKING OF CROPS	Minor
FALLOW CUT ONTO CROPS	None
SEASONAL MAIN CROPS	Very significant
SEASONAL SEC'DARY CROPS	Very significant

OTHER DOCUMENTATION

Survey description

In July 1991, road traverse from Wingei to Yangoru and Negri on the old Sepik Highway (1 day).

Boundary definition

The eastern and western boundaries with Systems 1403 and 1405 respectively were based on road traverses on the Sepik Highway and the old Sepik Highway. The southern boundary with System 1405 is based on air photo interpretation.

Notes

This system is distinguished from System 1403 where fallow vegetation is short woody regrowth; and from System 1505 where gardens are made in either short grass or short woody regrowth fallows.

This is Quin's (nd) system 3e-ii. Soil retention barriers are commonly used. They consist of sticks and bamboo placed across the slope and held by short pegs. Roscoe (1989) has described the westward expansion of long yam (D. alata) cultivation for ritual purposes between 1949 and 1980.

Cocoa is the most important source of cash income. Other sources include the sale of fresh food, pigs and tobacco. Robusta coffee was not being harvested in 1991 because of low prices. Sales of pigs are important.

National Nutrition Survey 1982/83

104 families from 5 villages were asked in November 1982 what they had eaten the previous day. 65 per cent reported eating coconut, 60 per cent taro, 44 per cent yam, 35 per cent banana, 33 per cent sago, 20 per cent sweet potato, 12 per cent Chinese taro and 1 per cent cassava. 19 per cent reported having eaten rice. 1 per cent reported eating fresh fish. This is similar to the crop pattern, except that sweet potato consumption was higher than expected.

Main References

Quin, F.M. 1984 Farming systems of East Sepik Province, Papua New Guinea. Unpublished report, East Sepik Rural Development Project, Wewak.
Roscoe, P.B. 1982 People and planning in the Yangoru Subdistrict, East Sepik Province, Papua New Guinea. PhD thesis, University of Rochester, New York.

Other References

Curtain, R. 1976 The 1974/75 rural survey: a study of outmigration from fourteen villages in the East Sepik Province. Discussion Paper No. 3, Institute of Applied Economic and Social Research, Port Moresby.
Gerstner, P.A. 1939 Der yams-anbau im But-Bezirk Neuguineas. Anthropos 34, 246-266.
Gimbol, C.K. 1989 A survey of cocoa wet bean marketing in Papua New Guinea. Designing Monitoring Systems for Smallholder Agriculture in Papua New Guinea, Working Paper No. 13, Australian Centre for International Agricultural Research, Canberra.
Haantjens, H.A., J.M. Arnold, J.R. McAlpine, J.A. Mabbutt, E. Reiner, R.G. Robbins and J.C. Saunders 1968 Lands of the Wewak-Lower Sepik area, Territory of Papua and New Guinea. Land Research Series No. 22, Commonwealth Scientific and Industrial Research Organization, Melbourne.
Roscoe, P.B. 1989 The pig and the long yam: the expansion of a Sepik cultural complex. Ethnology 28, 3, 219-231.

PROVINCE 14 East Sepik	**AGRICULTURAL SYSTEM No.** 5	**Subsystem No.** 1 **of** 2
Districts 3 Maprik	**Subsystem Extent** 75 %	**Area (sq km)** 277
Population 12,147	**Population density** 44 **persons/sq km**	**Population absent** 21 **%**

System Summary

Located to the west of Yangoru and north of Wingei in an area of hilly grasslands (dominated by Imperata) with patches of short woody regrowth which are mainly restricted to the valley bottoms. Gardens are made on the grass covered hills (Subsystem 1) and in the woody regrowth (Subsystem 2). This description covers the grassland subsystem. Gardens are made on hillsides in short grass fallows which are more than 15 years old. The grass is pulled up and either laid on the surface or along 10 cm high 'fences', which divide the gardens about every 10-15 m. Yam (D. esculenta) and banana are the most important crops; taro and banana are important crops; other crops are Chinese taro, sago and yams (D. alata and D. bulbifera). Yam (D. esculenta) are rarely staked. Two plantings are made before fallowing. Yam (D. esculenta) taro and banana are planted in the first year; yam and taro in the second year. Banana and lowland pitpit densities are increased during the second planting. Sweet potato may also be planted during the second planting. There are about three times as many grassland gardens as there are forest gardens. Gardens are planted in September-December. Household gardens are common.

Extends across provincial border to System(s) None

Altitude range (m) 100-300 **Slope** Multiple classes

CROPS

STAPLES DOMINANT	Banana, Yam (D. esculenta)
STAPLES SUBDOMINANT	Coconut, Taro (Colocasia)
STAPLES PRESENT	Banana, Chinese taro, Coconut, Sago, Taro (Colocasia), Yam (D. alata), Yam (D. esculenta)
OTHER VEGETABLES	Aibika, Amaranthus spp., Corn, Lowland pitpit, Peanuts, Tulip, Bean (snake)
FRUITS	Mango, Marita pandanus, Pawpaw, Pineapple, Sugarcane, Ton
NUTS	Breadfruit
NARCOTICS	Betel nut (lowland), Betel pepper (lowland), Tobacco

FALLOW & CROPPING PERIOD

FALLOW TYPE	Short grass
SHORT FALLOW	None
LONG FALLOW PERIOD	>15 years
CROPPING PERIOD	2 plantings
R VALUE	9 (very low)

GARDEN SEGREGATION

GARDEN SEGREGATION	Minor
CROP SEGREGATION	Minor
CROP SEQUENCES	Minor
MIXED VEGETABLE GARDENS	None
HOUSEHOLD GARDENS	Significant

SOIL FERTILITY MAINTENANCE

LEGUME ROTATION	None
PLANTED TREE FALLOW	None
COMPOST	None
ANIMAL MANURE	None
ISLAND BED	None
SILT FROM FLOOD	None
INORGANIC FERTILISER	None

CASH EARNING ACTIVITIES

1 Cocoa	Minor
2 Coffee Robusta	Minor
3 Fresh food	Minor

OTHER AGRONOMIC PRACTICES

Water Management:	
DRAINAGE	None
IRRIGATION	None
Soil Management:	
PIGS PLACED IN GARDENS	None
BURN FALLOW VEGETATION	Minor
TILLAGE	None
MECHANIZATION	None
DEEP HOLING	Minor
MULCHING	Significant
SOIL RETENTION BARRIERS	Significant
Mounding Techniques:	
VERY SMALL MOUNDS	None
SMALL MOUNDS	Minor
MOUNDS	None
LARGE MOUNDS	None
Garden Bed Techniques:	
BEDS SQUARE	None
BEDS LONG	None
Other Features:	
FENCES	Very significant
STAKING OF CROPS	Minor
FALLOW CUT ONTO CROPS	None
SEASONAL MAIN CROPS	Very significant
SEASONAL SEC'DARY CROPS	Very significant

OTHER DOCUMENTATION

Survey description

In July 1991, a road traverse from Wingei to Yangoru, Malapeim and Maprik (1 day).

Boundary definition

The eastern and western boundaries with Systems 1404 and 1408 respectively were based on road traverses on the Sepik Highway and the old Sepik Highway. The southern boundary with System 1406 was based on a road traverse from the Sepik Highway to Kwimbu village and air photo interpretation. The southern boundary with System 1402 was based on air photo interpretation.

Notes

This system was distinguished from System 1402 where sago is the most important food; from System 1404 where fallow vegetation is mainly short woody regrowth; from System 1406 where fallow vegetation is cane grass and short woody regrowth and land use is more intensive; and from System 1408 where fallow vegetation is short woody regrowth, 5-15 years old. This subsystem does not extend down the tributaries of the Parchi and Atilem Rivers where there is little short grass.

This is Quin's (nd) system 3e-iv. Gardens in this subsystem are visually striking. They run from top to bottom of grass covered hills, divided vertically by poles and horizontally by low 'fences', 10 cm high. Imperata grass is pulled up and laid on the surface or on these 'fences' which clearly act as soil retention devices. However people deny the 'fences' have this purpose, stating they are used solely to regulate women's work in planting and weeding. New gardens are cleared between July and September, and planted between September and December. Sago is a more important food between March and May, when the previous year's yams have been consumed. Yam (D. esculenta) are rarely staked and there is said to be no difference in yield between staked and non-staked yams. Peanuts are usually segregated from other crops. Yam (D. alata) is grown in small separate bush gardens, but this yam is a minor crop.

National Nutrition Survey 1982/83

78 families from 3 villages were asked in November 1982 what they had eaten the previous day. 63 per cent reported eating sago, 59 per cent banana, 33 per cent taro, 33 per cent coconut, 28 per cent yam, 14 per cent sweet potato, 4 per cent Chinese taro and none cassava. 9 per cent reported eating rice. None reported eating fresh fish. This is similar to the crop pattern, except for the lower than expected yam consumption, and the high sago consumption.

Main References

Lea, D.A.M. 1964 Abelam land and sustenance. PhD thesis, Australian National University, Canberra.
Lea, D.A.M. 1966 Yam growing in the Maprik area. Papua and New Guinea Agricultural Journal 18, 1, 5-15.
Quin, F.M. 1984 Farming systems of East Sepik Province, Papua New Guinea. Unpublished report, East Sepik Rural Development Project, Wewak.

Other References

Forge, A. 1990 The power of culture and the culture of power. In Lutkehaus, N., C. Kaufmann, W.E. Mitchell, D. Newton, L. Osmundsen and M. Schuster (eds), Sepik Heritage: Tradition and Change in Papua New Guinea. Durham, North Carolina, Carolina Academic Press, 160-172.
Haantjens, H.A., J.M. Arnold, J.R. McAlpine, J.A. Mabbutt, E. Reiner, R.G. Robbins and J.C. Saunders 1968 Lands of the Wewak-Lower Sepik area, Territory of Papua and New Guinea. Land Research Series No. 22, Commonwealth Scientific and Industrial Research Organization, Melbourne.
Lea, D.A.M. 1965 The Abelam: a study in local differentiation. Pacific Viewpoint 6, 2, 191-214.
Lea, D.A.M. 1969 Access to land among swidden cultivators: an example from New Guinea. Australian Geographical Studies 7, 2, 137-152.
Tyson, D.C. 1987 Malnutrition amidst plenty? An example from lowlands Papua New Guinea. In Conacher, A. (ed), Readings in Australian Geography. Perth, Institute of Australian Geographers and Department of Geography, University of Western Australia, 32-39.

PROVINCE 14 East Sepik **AGRICULTURAL SYSTEM No.** 5 **Subsystem No.** 2 **of** 2

Districts 3 Maprik **Subsystem Extent** 25 %

System Summary

This subsystem extends down the tributaries of the Parchi and Atilem Rivers in narrow strips of gallery woody regrowth. Short woody regrowth, more than 15 years old, is cleared and burnt. Yam (D. esculenta) and banana are the most important crops; taro and coconut are important crops; other crops are Chinese taro, sago and yam (D. alata). Two plantings are made before fallowing, with yam (D. esculenta) and taro. Banana and lowland pitpit densities are increased during the second cultivation. Sweet potato may also be planted, in small mounds, during the second cultivation. For every one garden in woody regrowth, there are about three grassland gardens. Gardens are planted in September-December.

Extends across provincial border to System(s) None

Altitude range (m) 100-300 **Slope** Multiple classes

CROPS

STAPLES DOMINANT	Banana, Yam (D. esculenta)
STAPLES SUBDOMINANT	Coconut, Taro (Colocasia)
STAPLES PRESENT	Banana, Cassava, Chinese taro, Coconut, Sago, Taro (Colocasia), Yam (D. alata), Yam (D. esculenta)
OTHER VEGETABLES	Aibika, Amaranthus spp., Corn, Lowland pitpit, Peanuts, Tulip, Bean (snake)
FRUITS	Mango, Marita pandanus, Pawpaw, Pineapple, Sugarcane, Ton
NUTS	Breadfruit
NARCOTICS	Betel nut (lowland), Betel pepper (lowland), Tobacco

FALLOW & CROPPING PERIOD

FALLOW TYPE	Short woody regrowth
SHORT FALLOW	None
LONG FALLOW PERIOD	>15 years
CROPPING PERIOD	2 plantings
R VALUE	9 (very low)

GARDEN SEGREGATION

GARDEN SEGREGATION	Minor
CROP SEGREGATION	Minor
CROP SEQUENCES	Minor
MIXED VEGETABLE GARDENS	None
HOUSEHOLD GARDENS	Significant

SOIL FERTILITY MAINTENANCE

LEGUME ROTATION	None
PLANTED TREE FALLOW	None
COMPOST	None
ANIMAL MANURE	None
ISLAND BED	None
SILT FROM FLOOD	None
INORGANIC FERTILISER	None

CASH EARNING ACTIVITIES

1 Cocoa	Minor
2 Coffee Robusta	Minor
3 Fresh food	Minor

OTHER AGRONOMIC PRACTICES

Water Management:	
DRAINAGE	None
IRRIGATION	None
Soil Management:	
PIGS PLACED IN GARDENS	None
BURN FALLOW VEGETATION	Very significant
TILLAGE	None
MECHANIZATION	None
DEEP HOLING	Minor
MULCHING	None
SOIL RETENTION BARRIERS	None
Mounding Techniques:	
VERY SMALL MOUNDS	None
SMALL MOUNDS	Minor
MOUNDS	None
LARGE MOUNDS	None
Garden Bed Techniques:	
BEDS SQUARE	None
BEDS LONG	None
Other Features:	
FENCES	Very significant
STAKING OF CROPS	Minor
FALLOW CUT ONTO CROPS	None
SEASONAL MAIN CROPS	Very significant
SEASONAL SEC'DARY CROPS	Very significant

OTHER DOCUMENTATION

Notes

This subsystem is similar to System 1404. It is likely that this subsystem was the original system in this area, but that techniques have had to be adapted because of the expansion of grasslands and the loss of forest (Haantjens et al. 1968). Forest is now restricted to south facing slopes and valley floors. Yam (D. alata) are cultivated in small separate gardens.

PROVINCE 14 East Sepik	**AGRICULTURAL SYSTEM No.** 6	**Subsystem No.** 1 **of** 1
Districts 3 Maprik, 4 Ambunti	**Subsystem Extent** 100 %	**Area (sq km)** 66
Population 8,478	**Population density** 128 **persons/sq km**	**Population absent** 9 **%**

System Summary

Located on the narrow floodplains of the Nanu, Parchi and Screw Rivers. Tall cane grass and scattered short woody regrowth and creepers (mainly pueraria), less than 5 years old, are cleared and burnt. Yam (D. esculenta, asakwa variety) is the most important crop; planted sago, taro and coconut are important crops; other crops are banana, Chinese taro, and sweet potato. Yam and banana are interplanted. Chinese taro is grown on garden edges and in smaller separate gardens with bananas. Gardens are planted three or more times before fallowing. Yam (D. esculenta) are staked during second and subsequent plantings, but not for the first planting. They are planted in mounds. The density of bananas is increased during the second planting. Sweet potato, often alternated with peanuts, becomes a more common crop in third and subsequent cultivations. Gardens are unfenced, but ridges made of stones and weeds thrown to the garden boundaries are common. Drains are important. Gardens are regularly flooded and silt deposits are important in the maintenance of soil fertility. Garden activity is highly seasonal: land is cleared from November to February, planted from January to March and harvested from August.

Extends across provincial border to System(s) None

Altitude range (m) 40-80 **Slope** Flat (<2 degrees)

CROPS

STAPLES DOMINANT	Yam (D. esculenta)
STAPLES SUBDOMINANT	Sago, Coconut, Taro (Colocasia)
STAPLES PRESENT	Banana, Chinese taro, Coconut, Sago, Sweet potato, Taro (Colocasia), Yam (D. esculenta)
OTHER VEGETABLES	Aibika, Amaranthus spp., Bean (winged), Corn, Lowland pitpit, Peanuts, Tulip, Bean (snake)
FRUITS	Mango, Marita pandanus, Pawpaw, Pineapple, Sugarcane, Ton
NUTS	Breadfruit
NARCOTICS	Betel nut (lowland), Betel pepper (lowland), Tobacco

FALLOW & CROPPING PERIOD

FALLOW TYPE	Grass/woody regrowth
SHORT FALLOW	None
LONG FALLOW PERIOD	1-4 years
CROPPING PERIOD	3-5 plantings
R VALUE	57 (medium)

GARDEN SEGREGATION

GARDEN SEGREGATION	None
CROP SEGREGATION	Minor
CROP SEQUENCES	Significant
MIXED VEGETABLE GARDENS	None
HOUSEHOLD GARDENS	Minor

SOIL FERTILITY MAINTENANCE

LEGUME ROTATION	Minor
PLANTED TREE FALLOW	None
COMPOST	None
ANIMAL MANURE	None
ISLAND BED	None
SILT FROM FLOOD	Very significant
INORGANIC FERTILISER	None

CASH EARNING ACTIVITIES

1 Fresh food	Significant
2 Cocoa	Minor
3 Coffee Robusta	Minor
4 Tobacco	Minor

OTHER AGRONOMIC PRACTICES

Water Management:	
DRAINAGE	Very significant
IRRIGATION	None
Soil Management:	
PIGS PLACED IN GARDENS	None
BURN FALLOW VEGETATION	Significant
TILLAGE	None
MECHANIZATION	None
DEEP HOLING	None
MULCHING	None
SOIL RETENTION BARRIERS	None
Mounding Techniques:	
VERY SMALL MOUNDS	None
SMALL MOUNDS	None
MOUNDS	Significant
LARGE MOUNDS	None
Garden Bed Techniques:	
BEDS SQUARE	None
BEDS LONG	None
Other Features:	
FENCES	Minor
STAKING OF CROPS	Significant
FALLOW CUT ONTO CROPS	None
SEASONAL MAIN CROPS	Very significant
SEASONAL SEC'DARY CROPS	Very significant

OTHER DOCUMENTATION

Survey description

Information based on a two day survey in October 1974; and a two week study in September 1986 as part of a Rapid Rural Appraisal of agriculture and malnutrition in Wosera. During July 1991, road traverses were made down the Parchi River, and across the Screw River flood plain and Wosera hills in two places (2 days).

Boundary definition

The boundary with System 1407 was defined after road traverses from the Maprik-Pagwi road to Balif; and with System 1405 by a road traverse from the Sepik Highway to Kwimbu village. Air photo interpretation was used to define the southern boundaries with Systems 1402 and 1405.

Notes

This is one of the most intensive systems in the lowlands. This intensive land use distinguished this system from nearby systems. It is based on a particular variety of yam (D. esculenta, asakwa variety), which can withstand inundation for short periods (Quin 1984); and the replenishment of soil fertility by natural flooding. Quin (nd) distinguishes between methods of cultivation on the floodplains of the North Wosera (3e-v) and those in South Wosera (3e-vi). The cultivation cycle begins two months earlier in the north and there is a greater reliance on asakwa varieties of yam (D. esculenta) in the south. Some people using this system also cultivate the nearby rolling land to the west and use planted sago extensively. Pueraria, an introduced leguminous vine, possibly contributes to soil fertility maintenance. Although woody regrowth is burnt, vines and non-woody fallow vegetation is heaped along garden borders. This practice, and the throwing of stones to the borders, has created ridges between plots.

It seems likely that fallow lengths are being reduced and cultivation periods are being lengthened by the rotational cropping of sweet potato and peanuts. Tobacco, for cash sale, may also be cropped during this rotation, following a short grass fallow. The first planting of yams is not staked. Vines are arranged on the ground and during a flood they can drift with the water. The second planting is staked. The large ditches, and possibly the ridges along the garden boundaries, are probably also adaptations to flooding - to reduce the through flow of water and to prevent the occurrence of standing water after a flood. Asakwa yams are planted in mounds about 60 cm high. This system is located within the Wosera area. Since the 1960s, this area has been identified as one of high population pressure, environmental stress and poor nutritional status of children and women. A large number of people from this area have migrated to resettlement schemes in West New Britain and at Gavien (System 1412) and Gawanga (System 1411).

The crop sequence in the mid 1980s- early 1990s was two plantings of yam followed by up to three years of sweet potato or peanuts. In 1974, sweet potato was not recorded as a significant crop. This suggests that intensification has occured between the mid 1970s and mid 1980s using sweet potato.

The main source of cash is the marketing of fresh food at Kunjingini, Maprik and Pagwi. Although there are extensive plantings of Robusta coffee and cocoa, depressed prices have resulted in declining sales. Other sources of cash income include sales of tobacco, firewood and artifacts.

National Nutrition Survey 1982/83

No villages from this system were included in the survey.

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PROVINCE 14 East Sepik	**AGRICULTURAL SYSTEM No.** 7	**Subsystem No.** 1 **of** 1
Districts 3 Maprik	**Subsystem Extent** 100 %	**Area (sq km)** 157
Population 14,576	**Population density** 93 **persons/sq km**	**Population absent** 15 **%**

System Summary

Located on the low hilly land to the west of the Screw River flood plain (System 1406). Some Wosera people use this system and System 1406; others are restricted to one or the other. Short woody regrowth and woody regrowth/cane grass fallows, generally between 8 and 12 years old, are cleared and burnt. Yam (D. esculenta) is the most important crop; banana, taro, planted sago and coconut are important crops; other crops are cassava, Chinese taro, sweet potato and yam (D. alata). Two plantings are made before fallowing. A second planting of yam is made using inferior tubers from the first harvest. The density of banana and lowland pitpit is increased in the second cultivation. Yams are usually staked, in contrast to System 1406, where they are not staked in the first cultivation. Garden activity is strongly seasonal: land is cleared between August and October, planted between October and December and harvested from June. Drains are commonly made in gardens.

Extends across provincial border to System(s) None

Altitude range (m) 80-120 **Slope** Gentle (2-10 degrees)

CROPS

STAPLES DOMINANT	Yam (D. esculenta)
STAPLES SUBDOMINANT	Banana, Coconut, Sago, Taro (Colocasia)
STAPLES PRESENT	Banana, Cassava, Chinese taro, Coconut, Sago, Sweet potato, Taro (Colocasia), Yam (D. alata), Yam (D. esculenta)
OTHER VEGETABLES	Aibika, Amaranthus spp., Bean (winged), Corn, Lowland pitpit, Tulip, Bean (snake)
FRUITS	Mango, Marita pandanus, Pawpaw, Pineapple, Sugarcane, Ton
NUTS	Breadfruit
NARCOTICS	Betel nut (lowland), Betel pepper (lowland), Tobacco

FALLOW & CROPPING PERIOD

FALLOW TYPE	Grass/woody regrowth
SHORT FALLOW	None
LONG FALLOW PERIOD	5-15 years
CROPPING PERIOD	2 plantings
R VALUE	17 (low)

GARDEN SEGREGATION

GARDEN SEGREGATION	Minor
CROP SEGREGATION	Minor
CROP SEQUENCES	Minor
MIXED VEGETABLE GARDENS	None
HOUSEHOLD GARDENS	Minor

SOIL FERTILITY MAINTENANCE

LEGUME ROTATION	None
PLANTED TREE FALLOW	None
COMPOST	None
ANIMAL MANURE	None
ISLAND BED	None
SILT FROM FLOOD	None
INORGANIC FERTILISER	None

CASH EARNING ACTIVITIES

1 Cocoa	Minor
2 Coffee Robusta	Minor
3 Fresh food	Minor

OTHER AGRONOMIC PRACTICES

Water Management:	
DRAINAGE	Significant
IRRIGATION	None
Soil Management:	
PIGS PLACED IN GARDENS	None
BURN FALLOW VEGETATION	Very significant
TILLAGE	None
MECHANIZATION	None
DEEP HOLING	Minor
MULCHING	None
SOIL RETENTION BARRIERS	Minor
Mounding Techniques:	
VERY SMALL MOUNDS	None
SMALL MOUNDS	Minor
MOUNDS	None
LARGE MOUNDS	None
Garden Bed Techniques:	
BEDS SQUARE	None
BEDS LONG	None
Other Features:	
FENCES	Minor
STAKING OF CROPS	Very significant
FALLOW CUT ONTO CROPS	None
SEASONAL MAIN CROPS	Very significant
SEASONAL SEC'DARY CROPS	Very significant

OTHER DOCUMENTATION

Survey description

In October 1974, a two day survey; in September 1986, a two week study as part of a Rapid Rural Appraisal of agriculture and malnutrition in Wosera. In July 1991, traverse from Wosera Patrol Post to Lehinga village (2 days).

Boundary definition

Boundaries with adjacent Systems 1402/1507, 1406, 1408, 1409 and 1411 were determined by traverses on the following roads: Kunjingini-Wosera-Balif, Wosera-Lehinga-Aupik, Wosera-Nungwaia.

Notes

This System is distinguished from System 1402/1507 where sago is the most important food; from System 1406 where land use is much more intensive; from System 1408 where fallow vegetation is short woody regrowth; and from Systems 1409 and 1411 where fallow vegetation is tall woody regrowth.

Quin (nd) described this system (her 3e-iii) as one in which yam (D. esculenta) was the most important crop in the first planting, and banana in the second. However, yam remains an important crop in the second planting, together with banana and lowland pitpit. Quin argued that access to the floodplain reduced the necessity to plant a second yam crop in this system. She suggested that, by using both systems, two yam crops could be grown in 12 months (one in each system). She considered that a second yam crop in this system was not worthwhile because of poor soils. Yam (D. alata) are cultivated in very small separate gardens mainly by men. Many gardens have v-shaped herringbone ditches in them which growers say are essential for good yam growth. Quin (1984) noted that soils in this system are poorly drained. Yam (D. esculenta) are staked to 2.5 m and trained up standing trees. Sweet potato is grown in small mounds. Soil retention barriers include small structures downslope from individual yam plantings, as well as poles laid across the slope. Cash income sources are cocoa, Robusta coffee, fresh food and firewood.

National Nutrition Survey 1982/83

138 families from 4 villages were asked in November 1982 what they had eaten the previous day. 93 per cent reported eating yam, 46 per cent sago, 17 per cent coconut, 13 per cent banana, 12 per cent sweet potato, 4 per cent taro, 1 per cent Chinese taro and 1 per cent cassava. 7 per cent reported eating rice. 1 per cent reported eating fresh fish. This is similar to the crop pattern, except for the lower than expected consumption of taro.

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PROVINCE 14 East Sepik	**AGRICULTURAL SYSTEM No.** 8	**Subsystem No.** 1 **of** 1
Districts 3 Maprik	**Subsystem Extent** 100 %	**Area (sq km)** 256
Population 17,094	**Population density** 67 **persons/sq km**	**Population absent** 9 **%**

System Summary

Located in the Prince Alexander Mountain foothills around the township of Maprik. Short woody regrowth, between 5-15 years old, is cut, dried and burnt. Yam (D. esculenta) is the most important crop; banana, taro, sago and coconut are important crops; other crops are Chinese taro, cassava, sweet potato and yam (D. alata). Yams are staked and trellised to 3 m. Two plantings are made before fallowing. A second planting of yam (D. esculenta) is planted with small tubers from the first harvest. Cultivation is highly seasonal, with clearing from July to September, planting from August to December and harvesting from April to June. Sago and Chinese taro are more important foods between December and April than during other periods. Yam (D. alata) is cultivated by men only in small separate gardens for ceremonial and ritual purposes. Special labour intensive techniques of deep holing and mounding are used to grow tubers up to 2.5 m in length. These yams are unimportant as a food source and only small areas of land are given over to their cultivation. Small structures are built downslope from individual yam plantings and act as soil retention barriers.

Extends across provincial border to System(s) None

Altitude range (m) 100-300 **Slope** Steep (10-25 degrees)

CROPS

STAPLES DOMINANT	Yam (D. esculenta)
STAPLES SUBDOMINANT	Banana, Coconut, Sago, Taro (Colocasia)
STAPLES PRESENT	Banana, Cassava, Chinese taro, Coconut, Sago, Sweet potato, Taro (Colocasia), Yam (D. alata), Yam (D. esculenta)
OTHER VEGETABLES	Aibika, Amaranthus spp., Bean (winged), Corn, Kumu musong, Lowland pitpit, Peanuts, Pumpkin tips, Tulip, Bean (snake)
FRUITS	Mango, Marita pandanus, Pawpaw, Pineapple, Sugarcane, Ton
NUTS	Breadfruit, Galip, Okari
NARCOTICS	Betel nut (lowland), Betel pepper (lowland), Tobacco

FALLOW & CROPPING PERIOD

FALLOW TYPE	Short woody regrowth
SHORT FALLOW	None
LONG FALLOW PERIOD	5-15 years
CROPPING PERIOD	2 plantings
R VALUE	17 (low)

GARDEN SEGREGATION

GARDEN SEGREGATION	Minor
CROP SEGREGATION	Minor
CROP SEQUENCES	Minor
MIXED VEGETABLE GARDENS	None
HOUSEHOLD GARDENS	Minor

SOIL FERTILITY MAINTENANCE

LEGUME ROTATION	None
PLANTED TREE FALLOW	None
COMPOST	None
ANIMAL MANURE	None
ISLAND BED	None
SILT FROM FLOOD	None
INORGANIC FERTILISER	None

CASH EARNING ACTIVITIES

1 Cocoa	Significant
2 Coffee Robusta	Minor
3 Firewood	Minor
4 Fresh food	Minor

OTHER AGRONOMIC PRACTICES

Water Management:	
DRAINAGE	None
IRRIGATION	None
Soil Management:	
PIGS PLACED IN GARDENS	None
BURN FALLOW VEGETATION	Very significant
TILLAGE	None
MECHANIZATION	None
DEEP HOLING	Minor
MULCHING	None
SOIL RETENTION BARRIERS	Significant
Mounding Techniques:	
VERY SMALL MOUNDS	None
SMALL MOUNDS	None
MOUNDS	None
LARGE MOUNDS	None
Garden Bed Techniques:	
BEDS SQUARE	None
BEDS LONG	None
Other Features:	
FENCES	Significant
STAKING OF CROPS	Very significant
FALLOW CUT ONTO CROPS	None
SEASONAL MAIN CROPS	Very significant
SEASONAL SEC'DARY CROPS	Very significant

OTHER DOCUMENTATION

Survey description

In July 1991, traverse by road from Maprik to Kimbangwa, Kalabu, Malba and Yenigo; and from Maprik to Apangai, Aupik and Gweligum (2 days).

Boundary definition

Boundaries with Systems 1402/1507, 1405, 1407 and 1409 were determined by traverses on the following roads: Maprik-Kalabu-Yenigo-Maprik, Kunjingini-Wosera-Balif, Maprik-Balif-Warengame.

Notes

This system is distinguished from System 1402/1507 where sago is the most important food; from System 1405 where short grass is the most important fallow vegetation; from System 1407 where fallow vegetation is short woody regrowth or woody regrowth and cane grass; from System 1409 where fallow vegetation is tall woody regrowth.

This system is best known from descriptions of growing long yams (D. alata), for example Lea (1966). However this crop is not important as a food, nor is a significant land area devoted to it. Nevertheless it does absorb large amounts of male labour. Women are excluded from all activities concerned with growing these yams. Quin (nd) (system 3e-ii) found variable staking of yams (D. esculenta) but in all gardens observed in 1991, yams were staked and impressive bamboo trellises were also used. Staking is a recent adoption in the east and south of Kalabu (see System 1405 where yams are not staked). This may explain the variation in the importance of staking.

Fallow vegetation varies widely from cane grass to taller woody regrowth, but most gardens are cleared in woody fallows. The density of banana and lowland pitpit increases during the second planting, and Chinese taro and sweet potato may be planted as a final crop. The tree crops of ton, breadfruit and betel nut are planted in fallow gardens. Most gardens are fenced with pitpit, bamboo and wood. Soil retention barriers include small structures downslope from individual yam plantings, as well as poles laid across the slope.

Cash income is derived from the sale of cocoa, Robusta coffee, fresh food and firewood.

National Nutrition Survey 1982/83

121 families from 4 villages were asked in November 1982 what they had eaten the previous day. 51 per cent reported eating taro, 44 per cent sago, 42 per cent yam, 35 per cent coconut, 32 per cent sweet potato, 21 per cent banana, 4 per cent cassava and 1 per cent Chinese taro. 21 per cent reported eating rice. 3 per cent reported eating fresh fish. This is similar to the crop pattern, except for the lower than expected consumption of yam and the higher than expected consumption of sweet potato.

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PROVINCE 14 East Sepik	**AGRICULTURAL SYSTEM No.** 9	**Subsystem No.** 1 **of** 1
Districts 3 Maprik	**Subsystem Extent** 100 %	**Area (sq km)** 252
Population 12,975	**Population density** 51 **persons/sq km**	**Population absent** 8 **%**

System Summary

Located west of Maprik and east of Dreikikir. Tall woody regrowth fallows, more than 15 years old, are cleared and burnt. Yam (D. esculenta) is the most important crop; taro, banana and coconut are important crops; other crops are cassava, Chinese taro, sago, sweet potato and yam (D. alata). Usually only one planting is made before fallowing, but sometimes two plantings are made, with Chinese taro and sweet potato planted into the harvested yam holes. Yams (all species) are trained up standing trees to 3 m. Yam (D. alata) is cultivated, but not always segregated. The elaborate techniques used for this species in System 1408 are not used. The trees ton, breadfruit and betel nut are planted in garden fallows. Agricultural activity is highly seasonal, with clearing from September to December, planting between November and January and harvesting from June.

Extends across provincial border to System(s) None

Altitude range (m) 100-500 **Slope** Steep (10-25 degrees)

CROPS

STAPLES DOMINANT	Yam (D. esculenta)
STAPLES SUBDOMINANT	Banana, Coconut, Taro (Colocasia)
STAPLES PRESENT	Banana, Cassava, Chinese taro, Coconut, Sago, Sweet potato, Taro (Colocasia), Yam (D. alata), Yam (D. esculenta)
OTHER VEGETABLES	Aibika, Amaranthus spp., Bean (common), Bean (winged), Corn, Kumu musong, Lowland pitpit, Pumpkin tips, Tulip, Bean (snake)
FRUITS	Mango, Marita pandanus, Pawpaw, Pineapple, Sugarcane, Ton
NUTS	Breadfruit, Galip, Okari
NARCOTICS	Betel nut (lowland), Betel pepper (lowland), Tobacco

FALLOW & CROPPING PERIOD

FALLOW TYPE	Tall woody regrowth
SHORT FALLOW	None
LONG FALLOW PERIOD	>15 years
CROPPING PERIOD	1 planting
R VALUE	5 (very low)

GARDEN SEGREGATION

GARDEN SEGREGATION	None
CROP SEGREGATION	Minor
CROP SEQUENCES	Minor
MIXED VEGETABLE GARDENS	None
HOUSEHOLD GARDENS	Minor

SOIL FERTILITY MAINTENANCE

LEGUME ROTATION	None
PLANTED TREE FALLOW	None
COMPOST	None
ANIMAL MANURE	None
ISLAND BED	None
SILT FROM FLOOD	None
INORGANIC FERTILISER	None

CASH EARNING ACTIVITIES

1 Coffee Robusta	Significant
2 Cocoa	Significant
3 Fresh food	Minor

OTHER AGRONOMIC PRACTICES

Water Management:	
DRAINAGE	None
IRRIGATION	None
Soil Management:	
PIGS PLACED IN GARDENS	None
BURN FALLOW VEGETATION	Very significant
TILLAGE	None
MECHANIZATION	None
DEEP HOLING	Minor
MULCHING	None
SOIL RETENTION BARRIERS	Minor
Mounding Techniques:	
VERY SMALL MOUNDS	None
SMALL MOUNDS	None
MOUNDS	None
LARGE MOUNDS	None
Garden Bed Techniques:	
BEDS SQUARE	None
BEDS LONG	None
Other Features:	
FENCES	None
STAKING OF CROPS	Very significant
FALLOW CUT ONTO CROPS	None
SEASONAL MAIN CROPS	Very significant
SEASONAL SEC'DARY CROPS	Very significant

OTHER DOCUMENTATION

Survey description

In July 1991, a road traverse from Maprik to Balif, Warengame, Bengil, Ilahita, Bonahoi, Urita, Brugham, Musendai, Bonahoi and Dreikikir. Gardens inspected at Warengame, Bengil, Ilahita, Balangabadangel, Albinama, Urita, Malangaum and Salata (1 day).

Boundary definition

Boundaries with Systems 1402/1507, 1407, 1408, 1410 and 1411 were determined by traverses on the following roads: Kunjingini-Wosera-Balif, Maprik-Balif-Warengame-Arisili, Balif-Inakor-Nungwaia, Balif-Dreikikir.

Notes

This system is distinguished from System 1402/1507 where sago is the most important food; from Systems 1407 and 1408 where fallow vegetation is short woody regrowth; from Systems 1410 and 1411 where fallow vegetation is tall woody regrowth and two plantings are made before fallowing.

The system is located between the Abelam and Wosera systems (1406, 1407 and 1408) and the Dreikikir system (1410). This is a less intensive system in which tall woody fallows are generally used and one planting made before fallow. There is minor use of short woody regrowth, 10-15 years old. Quin (nd) included this area in her system 3e-ii and did not distinguish it from System 1408; however fallow type and cropping period are different in the two areas. The taller fallows and the single planting are recognised by villagers. It is not clear why this strip of slightly lower intensity land use is found here. Following the harvest of the first yam crop, some yam (D. esculenta), Chinese taro and sweet potato are planted as a second planting, but this is a minor practice.

Cash income is derived from the sale of cocoa, Robusta coffee, fresh food and firewood.

National Nutrition Survey 1982/83

49 families from 2 villages were asked in November 1982 what they had eaten the previous day. 84 per cent reported eating yam, 71 per cent taro, 41 per cent coconut, 18 per cent banana, 12 per cent sweet potato and none Chinese taro, cassava or sago. 14 per cent reported eating rice. None reported eating fresh fish. This is similar to the crop pattern.

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PROVINCE 14 East Sepik	**AGRICULTURAL SYSTEM No.** 10	**Subsystem No.** 1 **of** 1
Districts 3 Maprik	**Subsystem Extent** 100 %	**Area (sq km)** 367
Population 8,795	**Population density** 24 **persons/sq km**	**Population absent** 9 **%**

System Summary

Located around Dreikikir station. Tall woody regrowth, more than 15 years old, is cleared, cut and burnt. Many trees are killed, pollarded and left standing. Yam (D. esculenta) is the most important crop; taro, banana and coconut are important crops; other crops are Chinese taro, sweet potato, yam (D. alata) and planted sago. Yam is staked to 3 m and dried leaves of ton trees are placed in the planting holes of some varieties of yam (D. esculenta). Gardens are planted twice, and sometimes three times, before fallowing. In the first year, yam (D. esculenta), banana and taro are planted. During the second planting, yam (D. esculenta) and increasing numbers of banana and lowland pitpit are grown. Yam (D. esculenta), banana and increasingly sweet potato are used in the third planting. During the first planting of the yam gardens, Chinese taro is planted on steeper slopes and around the garden edges. It produces throughout the life of the garden. Ton and breadfruit trees are planted in fallows, together with betel nut. Garden activity is highly seasonal with clearing from July to September, planting from September to January and harvesting from June to October. Sago and Chinese taro are important as foods from January to May. Low soil retention barriers are made in most gardens.

Extends across provincial border to System(s) None

Altitude range (m) 150-400 **Slope** Steep (10-25 degrees)

CROPS

STAPLES DOMINANT	Yam (D. esculenta)
STAPLES SUBDOMINANT	Banana, Coconut, Taro (Colocasia)
STAPLES PRESENT	Banana, Chinese taro, Coconut, Sago, Sweet potato, Taro (Colocasia), Yam (D. alata), Yam (D. esculenta)
OTHER VEGETABLES	Aibika, Amaranthus spp., Bean (common), Bean (winged), Corn, Cucumber, Kumu musong, Lowland pitpit, Pumpkin tips, Tulip
FRUITS	Mango, Marita pandanus, Pawpaw, Pineapple, Sugarcane, Ton
NUTS	Breadfruit, Galip, Okari
NARCOTICS	Betel nut (lowland), Betel pepper (lowland), Tobacco

FALLOW & CROPPING PERIOD

FALLOW TYPE	Tall woody regrowth
SHORT FALLOW	None
LONG FALLOW PERIOD	>15 years
CROPPING PERIOD	2 plantings
R VALUE	9 (very low)

GARDEN SEGREGATION

GARDEN SEGREGATION	None
CROP SEGREGATION	Minor
CROP SEQUENCES	Minor
MIXED VEGETABLE GARDENS	None
HOUSEHOLD GARDENS	Minor

SOIL FERTILITY MAINTENANCE

LEGUME ROTATION	None
PLANTED TREE FALLOW	None
COMPOST	Significant
ANIMAL MANURE	None
ISLAND BED	None
SILT FROM FLOOD	None
INORGANIC FERTILISER	None

CASH EARNING ACTIVITIES

1 Cocoa	Significant
2 Coffee Robusta	Significant
3 Fresh food	Minor

OTHER AGRONOMIC PRACTICES

Water Management:	
DRAINAGE	None
IRRIGATION	None
Soil Management:	
PIGS PLACED IN GARDENS	None
BURN FALLOW VEGETATION	Very significant
TILLAGE	None
MECHANIZATION	None
DEEP HOLING	None
MULCHING	None
SOIL RETENTION BARRIERS	Significant
Mounding Techniques:	
VERY SMALL MOUNDS	None
SMALL MOUNDS	None
MOUNDS	None
LARGE MOUNDS	None
Garden Bed Techniques:	
BEDS SQUARE	None
BEDS LONG	None
Other Features:	
FENCES	Minor
STAKING OF CROPS	Very significant
FALLOW CUT ONTO CROPS	None
SEASONAL MAIN CROPS	Very significant
SEASONAL SEC'DARY CROPS	Very significant

OTHER DOCUMENTATION

Survey description

In 1970-71, a 15 month study of adoption of rice and coffee and a three month study of subsistence agriculture in 1978-79. In July 1991 road traverses from Bonahoi to Brugham, Musendai, Dreikikir and Tumam; and from Tumam to Nanaha, Serepmel, Tau and Masalaga (half day).

Boundary definition

Boundaries with Systems 1402/1507, 1409 and 1411 were determined by traverses on the following roads: Balif-Inakor-Nungwaia, Balif-Dreikikr, Dreikikir-Nanaha-Daina, Dreikikir-Nanaha-Yasip-Serepmel, Dreikikir-Nuku.

Notes

This system is distinguished from System 1402/1507 where sago is the most important food; from System 1409 where only one planting is made before fallowing. It is very similar to System 1411, but ton leaves are not used to make compost there.

This is Quin's (nd) system 3f, but her description is a summary. The most detailed accounts are by Allen (1982, 1985) for Tumam and Ngahmbole (Urat) villages and by Obrist van Eeuwijk (1992) for the Tau (Kwanga) villages. The newly planted gardens are visually striking with their orderly patterns of yam interspersed with taro and banana. The practice of placing ton leaves in the planting holes of some yam varieties is restricted to this system, although it is spreading slowly to neigbouring systems, including West Sepik System 1508 around Seim. Growers insist the practice is to prevent the tubers from becoming hairy and to give them space to grow. However the leaves probably contribute nitrogen and other elements to the growing tubers (Allen 1982). Crops such as sweet potato and Chinese taro are always planted separately from yam (D. esculenta) in a first year yam garden. Chinese taro is usually planted on the bottom edge of yam gardens. Deep holes (see System 1408) are not made for yam (D. alata). Yams are sometimes planted in trenches and the seed tuber hollowed out and stuffed with treated soil in order to influence their growth.

Cash income is derived from the sale of Robusta coffee, cocoa and fresh food.

National Nutrition Survey 1982/83

83 families from 4 villages were asked in November or December 1982 what they had eaten the previous day. 76 per cent reported eating coconut, 67 per cent yam, 63 per cent banana, 43 per cent sago, 42 per cent taro, 18 per cent sweet potato, and none Chinese taro or cassava. 4 per cent reported eating rice. None reported eating fresh fish. This is similar to the crop pattern except for the higher than expected sago consumption.

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PROVINCE 14 East Sepik	**AGRICULTURAL SYSTEM No.** 11	**Subsystem No.** 1 **of** 1
Districts 3 Maprik	**Subsystem Extent** 100 %	**Area (sq km)** 419
Population 8,955	**Population density** 21 **persons/sq km**	**Population absent** 9 **%**

System Summary

Located between Yasip and Bongos missions. Tall woody regrowth, more than 15 years old, is cleared, cut and burnt. Yam (D. esculenta) is the most important crop; banana, taro and coconut are important crops; other crops include planted sago, Chinese taro, yam (D. alata) and sweet potato. Two plantings are made before fallowing. Yam, banana and taro are planted in the first year. During the second planting, yam is replanted together with increased amounts of banana, lowland pitpit and sweet potato. Ton and breadfruit trees are planted in fallows, together with betel nut. Most yams are staked. Garden activity is highly seasonal with clearing between July and September, planting between September and January and harvesting from June. Sago and Chinese taro are important supplementary food sources in the period from December to May, between the planting of the new crop and the harvesting of the current one. In the south near Bongos, patches of Imperata grassland are common, but are not used for food gardens.

Extends across provincial border to System(s) None

Altitude range (m) 200-500 **Slope** Steep (10-25 degrees)

CROPS

STAPLES DOMINANT	Yam (D. esculenta)
STAPLES SUBDOMINANT	Banana, Coconut, Taro (Colocasia)
STAPLES PRESENT	Banana, Chinese taro, Coconut, Sago, Sweet potato, Taro (Colocasia), Yam (D. alata), Yam (D. esculenta)
OTHER VEGETABLES	Aibika, Amaranthus spp., Bean (common), Bean (winged), Corn, Cucumber, Kumu musong, Lowland pitpit, Pumpkin tips, Tulip
FRUITS	Mango, Marita pandanus, Pawpaw, Pineapple, Sugarcane, Ton
NUTS	Breadfruit, Galip, Okari
NARCOTICS	Betel nut (lowland), Betel pepper (lowland), Tobacco

FALLOW & CROPPING PERIOD

FALLOW TYPE	Tall woody regrowth
SHORT FALLOW	None
LONG FALLOW PERIOD	>15 years
CROPPING PERIOD	2 plantings
R VALUE	9 (very low)

GARDEN SEGREGATION

GARDEN SEGREGATION	None
CROP SEGREGATION	Minor
CROP SEQUENCES	Minor
MIXED VEGETABLE GARDENS	None
HOUSEHOLD GARDENS	Minor

SOIL FERTILITY MAINTENANCE

LEGUME ROTATION	None
PLANTED TREE FALLOW	None
COMPOST	None
ANIMAL MANURE	None
ISLAND BED	None
SILT FROM FLOOD	None
INORGANIC FERTILISER	None

CASH EARNING ACTIVITIES

1 Cocoa	Minor
2 Coffee Robusta	Minor
3 Fresh food	Minor

OTHER AGRONOMIC PRACTICES

Water Management:	
DRAINAGE	None
IRRIGATION	None
Soil Management:	
PIGS PLACED IN GARDENS	None
BURN FALLOW VEGETATION	Very significant
TILLAGE	None
MECHANIZATION	None
DEEP HOLING	None
MULCHING	None
SOIL RETENTION BARRIERS	Minor
Mounding Techniques:	
VERY SMALL MOUNDS	None
SMALL MOUNDS	None
MOUNDS	None
LARGE MOUNDS	None
Garden Bed Techniques:	
BEDS SQUARE	None
BEDS LONG	None
Other Features:	
FENCES	Minor
STAKING OF CROPS	Very significant
FALLOW CUT ONTO CROPS	None
SEASONAL MAIN CROPS	Very significant
SEASONAL SEC'DARY CROPS	Very significant

OTHER DOCUMENTATION

Survey description

In 1972, a two day visit. In July 1991, a road traverse from Nanaha to Masalaga, and from Tumam to Yauatong, Mimbiok, Laninguap and the provincial border (1 day).

Boundary definition

Boundaries with Systems 1402/1507, 1407, 1409 and 1410 were determined by traverses on the following roads: Balif-Inakor-Nungwaia, Dreikikir-Nuku, Dreikikir-Nanaha-Daina, Dreikikir-Yasip-Serepmel. The boundary with System 1508 is based on field visits to both sides of the Bongos River.

Notes

This system is distinguished from System 1402/1507 where sago is the most important food; from System 1407 where fallow vegetation is short woody regrowth, 8-12 years old; from Systems 1409 and 1508 where only one planting is made before fallowing; and from System 1410 where compost is formed in yam planting holes.

In System 1410, all growers use ton leaves and make two plantings before fallowing. In this system, few growers use ton leaves. More growers in System 1508 use ton leaves but in that system only one planting before fallowing is usual. In all these systems, there is a tendency to extend the cultivation period after the last yam (D. esculenta) crop by planting a final crop of sweet potato under bananas. Chinese taro are planted around garden edges during the first yam crop and produce throughout the life of the garden.

Cash income is derived from the sale of Robusta coffee, cocoa and fresh food.

National Nutrition Survey 1982/83

27 families from 2 villages were asked in December 1982 what they had eaten the previous day. 78 per cent reported eating sago, 70 per cent banana, 59 per cent yam, 30 per cent taro, 26 per cent coconut, 4 per cent sweet potato, 4 per cent Chinese taro, and none cassava. 4 per cent reported eating rice. None reported eating fresh fish. This is similar to the crop pattern except for the higher than expected sago consumption.

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Allen, B.J. 1982 Yam gardens and fallows in the Torricelli foothills, Dreikikir District, East Sepik. In Bourke, R.M. and V. Kesavan (eds), Proceedings of the Second Papua New Guinea Food Crops Conference. Port Moresby, Department of Primary Industry, 236-255.

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PROVINCE 14 East Sepik	**AGRICULTURAL SYSTEM No.** 12	**Subsystem No.** 1 **of** 1
Districts 1 Angoram	**Subsystem Extent** 100 %	**Area (sq km)** 54
Population 2,132	**Population density** 39 **persons/sq km**	**Population absent** 0 **%**

System Summary

This system is practised by formal and informal settlers in and around the Gavien Resettlement Scheme. Tall woody regrowth fallows, 8-15 years old, are cut, dried and burnt. On some blocks, people clear either regrowth after longer fallows or previously uncleared forest. Depending on settlers' origins, important crops are sago, mostly purchased from Angoram market, and yam (D. esculenta), banana, Chinese taro and sweet potato. Only one planting is made before fallowing. Crops are segregated within gardens and garden segregation is common. Cultivation is less seasonal than in the yam based systems in the Maprik area. Clearing of fallow vegetation is concentrated during the drier months of June to September, and garden planting follows.

Extends across provincial border to System(s) None

Altitude range (m) 20-60 **Slope** Gentle (2-10 degrees)

CROPS

STAPLES DOMINANT	None
STAPLES SUBDOMINANT	Banana, Chinese taro, Sago, Sweet potato, Yam (D. esculenta)
STAPLES PRESENT	Banana, Chinese taro, Sago, Sweet potato, Taro (Colocasia), Yam (D. alata), Yam (D. esculenta)
OTHER VEGETABLES	Aibika, Amaranthus spp., Corn, Cucumber, Kumu musong, Lowland pitpit, Nasturtium spp., Peanuts, Tulip, Bean (snake)
FRUITS	Malay apple, Mango, Pawpaw, Pineapple, Sugarcane, Guava
NUTS	Breadfruit, Coconut, Okari
NARCOTICS	Betel nut (lowland), Betel pepper (lowland), Tobacco

FALLOW & CROPPING PERIOD

FALLOW TYPE	Tall woody regrowth
SHORT FALLOW	None
LONG FALLOW PERIOD	5-15 years
CROPPING PERIOD	1 planting
R VALUE	9 (very low)

GARDEN SEGREGATION

GARDEN SEGREGATION	Significant
CROP SEGREGATION	Significant
CROP SEQUENCES	None
MIXED VEGETABLE GARDENS	None
HOUSEHOLD GARDENS	Minor

SOIL FERTILITY MAINTENANCE

LEGUME ROTATION	None
PLANTED TREE FALLOW	None
COMPOST	None
ANIMAL MANURE	None
ISLAND BED	None
SILT FROM FLOOD	None
INORGANIC FERTILISER	None

CASH EARNING ACTIVITIES

1 Betel nut	Significant
2 Cocoa	Significant
3 Fresh food	Significant
4 Rubber	Significant

OTHER AGRONOMIC PRACTICES

Water Management:	
DRAINAGE	None
IRRIGATION	None
Soil Management:	
PIGS PLACED IN GARDENS	None
BURN FALLOW VEGETATION	Very significant
TILLAGE	None
MECHANIZATION	None
DEEP HOLING	None
MULCHING	None
SOIL RETENTION BARRIERS	None
Mounding Techniques:	
VERY SMALL MOUNDS	None
SMALL MOUNDS	Minor
MOUNDS	None
LARGE MOUNDS	None
Garden Bed Techniques:	
BEDS SQUARE	None
BEDS LONG	None
Other Features:	
FENCES	None
STAKING OF CROPS	Minor
FALLOW CUT ONTO CROPS	None
SEASONAL MAIN CROPS	Significant
SEASONAL SEC'DARY CROPS	Significant

OTHER DOCUMENTATION

Survey description

In April 1989, a two week survey of formal and informal settlers blocks. Aerial observations in July 1991.

Boundary definition

Restricted to the Gavien Resettlement area and immediate surrounds. The boundary with System 1402/1507 was determined by traverses on the Wewak-Angoram and Gavien-Tawai roads, maps of the Gavien Resettlement Scheme and aerial observations.

Notes

This system is distinguished from System 1402/1507 where sago is the most important food.

People using this system occupy both the formal blocks of the Gavien Resettlement Scheme and land purchased from villagers around the scheme. The formal blocks were opened up in the 1960s and 1970s. Informal settlement is more recent. The 1980 census population is likely to seriously underestimate the present population using the system both because of informal resettlement since 1980 and rapid growth on the formal blocks.

For about half the families, garden crops are the most important food, while the balance of families rely on sago. This is because settlers come from areas where sago is the most important food or from areas where cultivated crops are the most important. The former group includes settlers from the Sepik River, Grasslands, Yuat River and Lumi areas; and the latter group include people from the Yangoru, Wosera, Maprik and Wewak Islands areas. Very little sago is grown on the resettlement blocks but most comes from the Angoram township market. Yam (D. esculenta), sweet potato and taro are sometimes planted in separate gardens; they are planted in separate plots when grown in the same garden. Composting and mulching were promoted by the Bagi Agricultural Centre in the 1970s, but neither practice was used by settlers in 1989. Sweet potato is planted in mounds 30-50 cm high. Fruit and nut trees have been extensively planted on the blocks as part of an extension program.

In 1989, only a small proportion of the total rubber trees were regularly tapped and cash incomes were low. Informal settlers had planted much more cocoa than rubber. Some Robusta coffee was still being sold in 1989, but this had probably ceased by 1991. Food sold at Angoram market, particularly by women, was a significant source of income. Betel nut was also important, especially for settlers on long-established blocks where most land was planted to export tree crops. The resettlement project has been criticized for the concentration of extension advice on rubber. It is argued that this has had negative effects on the nutritional and socio-economic well-being of the settlers, especially children and women (Cox 1979). However Shack and others (1990) reported that nutritional status was not generally poorer on the resettlement scheme.

National Nutrition Survey 1982/83

No villages from this system were included in the survey.

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PROVINCE 14 East Sepik	**AGRICULTURAL SYSTEM No.** 13	**Subsystem No.** 1 **of** 2
Districts 1 Angoram, 4 Ambunti	**Subsystem Extent** 75 %	**Area (sq km)** 5221
Population 14,464	**Population density** 3 **persons/sq km**	**Population absent** 24 **%**

System Summary

Located along the Sepik, Keram and Yuat Rivers. Sago is the most important food and fish is very significant. Coconut is an important food. For people living along the Sepik River, up to one-third of sago requirements may be imported in exchange for fish and tobacco. Little food comes from gardening. Very small gardens are made on levee banks parallel to the rivers. Two subsystems exist, one using woody regrowth (subsystem 1) and the other cane grass fallows (subsystem 2). The subsystems differ only in the fallow type and cropping period. In Subsystem 1, tall woody regrowth, usually 8-15 years old, is cleared and burnt. Yams (D. esculenta and D. alata) and taro are grown. In some locations perennial stands of banana are grown. Yam (D. alata) is cultivated in areas of regular flooding because of its shorter growing period. Both species of yam are cultivated where flooding is not as regular. Gardens are planted once only before fallowing. Garden activity is strongly seasonal with crops planted between May and July. Crops are grown in separate sections of gardens. The frequent deposition of silt is important in the maintenance of soil fertility.

Extends across provincial border to System(s) None

Altitude range (m) 5-50 **Slope** Gentle (2-10 degrees)

CROPS

STAPLES DOMINANT	Sago
STAPLES SUBDOMINANT	Coconut
STAPLES PRESENT	Coconut, Sago, Taro (Colocasia), Yam (D. alata), Yam (D. esculenta)
OTHER VEGETABLES	Aibika, Amaranthus spp., Corn, Kangkong, Nasturtium spp., Tulip
FRUITS	Banana, Sugarcane, Ton, Watermelon
NUTS	Breadfruit
NARCOTICS	Betel nut (lowland), Betel pepper (lowland), Tobacco

FALLOW & CROPPING PERIOD

FALLOW TYPE	Tall woody regrowth
SHORT FALLOW	None
LONG FALLOW PERIOD	5-15 years
CROPPING PERIOD	1 planting
R VALUE	9 (very low)

GARDEN SEGREGATION

GARDEN SEGREGATION	Minor
CROP SEGREGATION	Very significant
CROP SEQUENCES	None
MIXED VEGETABLE GARDENS	None
HOUSEHOLD GARDENS	Minor

SOIL FERTILITY MAINTENANCE

LEGUME ROTATION	None
PLANTED TREE FALLOW	None
COMPOST	None
ANIMAL MANURE	None
ISLAND BED	None
SILT FROM FLOOD	Very significant
INORGANIC FERTILISER	None

CASH EARNING ACTIVITIES

1 Betel nut	Significant
2 Cocoa	Minor
3 Crocodile	Minor
4 Fish	Minor
5 Tobacco	Minor

OTHER AGRONOMIC PRACTICES

Water Management:	
DRAINAGE	None
IRRIGATION	None
Soil Management:	
PIGS PLACED IN GARDENS	None
BURN FALLOW VEGETATION	Very significant
TILLAGE	None
MECHANIZATION	None
DEEP HOLING	None
MULCHING	None
SOIL RETENTION BARRIERS	None
Mounding Techniques:	
VERY SMALL MOUNDS	None
SMALL MOUNDS	Minor
MOUNDS	None
LARGE MOUNDS	None
Garden Bed Techniques:	
BEDS SQUARE	None
BEDS LONG	None
Other Features:	
FENCES	Minor
STAKING OF CROPS	Minor
FALLOW CUT ONTO CROPS	None
SEASONAL MAIN CROPS	None
SEASONAL SEC'DARY CROPS	Very significant

OTHER DOCUMENTATION

Survey description

In July 1991, a traverse by boat from Angoram to Ambunti on Sepik River; Keram River to Kambot village; Yuat River to Biwat village (7 days).

Boundary definition

Boundaries with Systems 1402/1507, 1418 and 1419/1308 were determined from boat traverses on the Keram, Yuat and Sepik Rivers; interviews at Ambunti of people from numerous locations west of Ambunti; and Haantjens et al. (1968).

Notes

This system is distinguished from Systems 1402/1507 and 1419/1308 where sago is the most important food, but land is not innundated seasonally. It is very similar to System 1418, but in that system people import most of their sago in exchange for fish.

This is a subsystem of an extensive system, Quin's (nd) system 3a, garden types (iii) and (iv), which is restricted to levee banks parallel to the major rivers in the lower Sepik floodplain. The system is regulated by the annual rise and fall of the Sepik and its southern tributaries. Almost all gardens are planted between May and July and are harvested between August and December. In some areas above the annual flood levels, such as above Kambot village on the Keram River, gardens are planted in August to November, following the planting of the seasonally flooded land. Gardening provides a seasonal supply of tubers and other quick growing crops like corn. Many crops including yams are planted in rows. The segregation of crops including yams, sweet potato, corn, tobacco, taro and watermelons is notable. Yams are staked to 4 m. Yam (D. alata) is planted in very small mounds (10-15 cm high by 20-40 cm diameter) and sweet potato in small mounds (30-40 cm by 80-100 cm). Water hyacinth, which became a pest in about 1980, has displaced the vegetable kangkong. Kangkong was only common on the Sepik River in 1991 above the upper limit of water hyacinth infestation, which was downstream of Timbunke village.

Sources of cash vary from place to place: cocoa, fresh food and betel nut are most important on the Yuat River, which has good access to a roadhead at Angoram; carvings around Kambot; and tobacco, fish and crocodile skins in many places. Tobacco is commonly planted as a monocrop, sometimes in large plots.

National Nutrition Survey 1982/83

33 families from 1 village were asked in November 1982 what they had eaten the previous day. 88 per cent reported eating sago, 64 per cent coconut, 21 per cent banana, 3 per cent sweet potato, 3 per cent cassava and none taro, Chinese taro or yam. None reported eating rice. 18 per cent reported eating fresh fish. This is similar to the crop pattern except for the higher than expected consumption of banana.

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PROVINCE 14 East Sepik **AGRICULTURAL SYSTEM No.** 13 **Subsystem No.** 2 **of** 2

Districts 1 Angoram, 4 Ambunti **Subsystem Extent** 25 %

System Summary

In this subsystem, tall cane grass fallows, usually 5-10 years old, are cleared and burnt. Yam (D. esculenta and D. alata) and taro are grown. In some locations perennial stands of banana are grown. Yam (D. alata) is cultivated in areas of regular flooding because of its shorter growing period. Both species of yam are cultivated where flooding is not as regular. About half of all gardens are planted twice before fallowing; in a minority as many as four plantings are made. Garden activity is strongly seasonal with crops planted between May and July. Harvesting must be completed by the seasonal rise of the river around December. Crops are grown in separate sections of gardens. The frequent deposition of silt is important in the maintenance of soil fertility.

Extends across provincial border to System(s) None

Altitude range (m) 5-50 **Slope** Gentle (2-10 degrees)

CROPS

STAPLES DOMINANT	Sago
STAPLES SUBDOMINANT	Coconut
STAPLES PRESENT	Coconut, Sago, Taro (Colocasia), Yam (D. alata), Yam (D. esculenta)
OTHER VEGETABLES	Aibika, Amaranthus spp., Corn, Kangkong, Nasturtium spp., Tulip
FRUITS	Banana, Sugarcane, Ton, Watermelon
NUTS	Breadfruit
NARCOTICS	Betel nut (lowland), Betel pepper (lowland), Tobacco

FALLOW & CROPPING PERIOD

FALLOW TYPE	Tall grass
SHORT FALLOW	None
LONG FALLOW PERIOD	5-15 years
CROPPING PERIOD	2 plantings
R VALUE	17 (low)

GARDEN SEGREGATION

GARDEN SEGREGATION	Minor
CROP SEGREGATION	Very significant
CROP SEQUENCES	None
MIXED VEGETABLE GARDENS	None
HOUSEHOLD GARDENS	Minor

SOIL FERTILITY MAINTENANCE

LEGUME ROTATION	None
PLANTED TREE FALLOW	None
COMPOST	None
ANIMAL MANURE	None
ISLAND BED	None
SILT FROM FLOOD	Very significant
INORGANIC FERTILISER	None

CASH EARNING ACTIVITIES

1 Betel nut	Significant
2 Crocodile	Minor
3 Fish	Minor
4 Tobacco	Minor

OTHER AGRONOMIC PRACTICES

Water Management:	
DRAINAGE	None
IRRIGATION	None
Soil Management:	
PIGS PLACED IN GARDENS	None
BURN FALLOW VEGETATION	Very significant
TILLAGE	None
MECHANIZATION	None
DEEP HOLING	None
MULCHING	None
SOIL RETENTION BARRIERS	None
Mounding Techniques:	
VERY SMALL MOUNDS	None
SMALL MOUNDS	Minor
MOUNDS	None
LARGE MOUNDS	None
Garden Bed Techniques:	
BEDS SQUARE	None
BEDS LONG	None
Other Features:	
FENCES	Minor
STAKING OF CROPS	Minor
FALLOW CUT ONTO CROPS	None
SEASONAL MAIN CROPS	None
SEASONAL SEC'DARY CROPS	Very significant

OTHER DOCUMENTATION

Notes

This is Quin's (nd) system 3a, garden types (i) and (ii). Most gardens are cleared from tall grass on levee banks. However some smaller areas of short grass on the river banks are also used. Information on the number of crops planted was recorded in 29 gardens that followed cane grass fallows in Systems 1413 and 1418 (11 gardens in System 1413 and 8 gardens in 1418). In 17 gardens, the planting was the first since fallow; in 8 gardens, it was the second planting; in 3 it was the third; and in 1 garden it was the fourth planting. This contrasts with the generalized statements by villagers that normally cane grass gardens were planted 5 times before fallowing.

PROVINCE 14 East Sepik	**AGRICULTURAL SYSTEM No.** 14	**Subsystem No.** 1 **of** 1
Districts 2 Wewak	**Subsystem Extent** 100 %	**Area (sq km)** 58
Population 2,521	**Population density** 43 **persons/sq km**	**Population absent** 16 **%**

System Summary

Located on the Schouten Islands (Vokeo, Koil, Wei, Blupblup, Kadovar and Bam Islands) off the Sepik River mouth. Short woody regrowth, 4-6 years old is cleared with some burning. Banana is the most important crop; taro, sweet potato, cassava and coconut are important crops; other crops are sago, yam (D. esculenta) and Alocasia taro. Only one planting is made before fallowing on Vokeo and Wei Islands, but two or three plantings are made on Koil, Blupblup and Bam Islands. Plantings are made seasonally. Tree crops are very important and include breadfruit, galip, Polynesian chestnut, pao nut and betel nut. Fish is an important food.

Extends across provincial border to System(s) None

Altitude range (m) 0-400 **Slope** Multiple classes

CROPS

STAPLES DOMINANT	Banana
STAPLES SUBDOMINANT	Cassava, Coconut, Sweet potato, Taro (Colocasia)
STAPLES PRESENT	Banana, Cassava, Coconut, Sago, Sweet potato, Taro (Alocasia), Taro (Colocasia), Yam (D. esculenta)
OTHER VEGETABLES	Aibika, Amaranthus spp., Corn, Tulip
FRUITS	Malay apple, Mango, Orange, Pawpaw, Pineapple, Sugarcane, Pouteria, Mon
NUTS	Breadfruit, Galip, Okari, Pao, Polynesian chestnut
NARCOTICS	Betel nut (lowland), Betel pepper (lowland), Tobacco

FALLOW & CROPPING PERIOD

FALLOW TYPE	Short woody regrowth
SHORT FALLOW	None
LONG FALLOW PERIOD	5-15 years
CROPPING PERIOD	1 planting
R VALUE	9 (very low)

GARDEN SEGREGATION

GARDEN SEGREGATION	None
CROP SEGREGATION	Minor
CROP SEQUENCES	Minor
MIXED VEGETABLE GARDENS	None
HOUSEHOLD GARDENS	None

SOIL FERTILITY MAINTENANCE

LEGUME ROTATION	None
PLANTED TREE FALLOW	None
COMPOST	None
ANIMAL MANURE	None
ISLAND BED	None
SILT FROM FLOOD	None
INORGANIC FERTILISER	None

CASH EARNING ACTIVITIES

1 Fresh food	Significant
2 Coconuts	Minor
3 Fish	Minor

OTHER AGRONOMIC PRACTICES

Water Management:	
DRAINAGE	None
IRRIGATION	None
Soil Management:	
PIGS PLACED IN GARDENS	None
BURN FALLOW VEGETATION	Minor
TILLAGE	None
MECHANIZATION	None
DEEP HOLING	None
MULCHING	None
SOIL RETENTION BARRIERS	None
Mounding Techniques:	
VERY SMALL MOUNDS	None
SMALL MOUNDS	Minor
MOUNDS	None
LARGE MOUNDS	None
Garden Bed Techniques:	
BEDS SQUARE	None
BEDS LONG	None
Other Features:	
FENCES	Very significant
STAKING OF CROPS	None
FALLOW CUT ONTO CROPS	None
SEASONAL MAIN CROPS	Minor
SEASONAL SEC'DARY CROPS	Significant

OTHER DOCUMENTATION

Survey description

M. Woruba lived on Vokeo Island in 1963 and made three return visits in the 1970s and 1980s. This description is based on his observations, supplemented by Hogbin (1938).

Boundary definition

The Schouten Islands were allocated to a separate system after visits to Vokeo, Koil, Blupblup, Bam and Wei Islands in this group, to the islands off Wewak (System 1420), Manam Island (System 1309), Boisa Island (System 1310) and nearby locations on the mainland (System 1402/1507). More observations were made on Vokeo than on other islands.

Notes

This system is distinguished from Systems 1402/1507 and 1420 where sago is the most important food; from System 1309 where sweet potato and taro are the most important crops; and from System 1310 where cassava and sweet potato are the most important crops and fallow vegetation is grass and short woody regrowth, less than 5 years old.

Fallow vegetation is short woody regrowth. Fallow periods are 4-10 years on Vokeo Island, but shorter on Bam and Kadovar Islands where land pressure is greater. On the north side of Vokeo Island, there is little burning of fallow vegetation, but there is more burning on the south side. All gardens are fenced on Vokeo Island. Yam is planted seasonally. Sweet potato is planted in small mounds.

The number of plantings made before fallowing varies from island to island. On Vokeo and Wei Islands, only one planting is made before fallowing; on Koil Island, sweet potato is planted in the first year gardens with cassava and banana replanted after harvest. Two or three plantings are made on Blupblup and Bam Islands with taro in the first year, and sweet potato and banana replanted after the taro harvest.

Fish is commonly eaten. Taro and banana are the most important crops on Vokeo Island, but taro is less important on islands where land pressure is greater. Taro was previously the most important crop (Hogbin 1938), but production has been reduced because of taro beetle damage and declining soil fertility.

Pao nut (Barringtonia), Polynesian chestnut (aila), galip nut and betel nut are very common on the islands. The species listed as okari nut is Terminalia impediens, not T. kaernbachii. Breadfruit is an important food on all islands. The flesh is preserved by drying on Wei, Blupblup, Kadovar and Bam Islands. Coconut is used to cook most meals. Coconut milk is a common drink. Sago is grown on Vokeo, Koil and Blupblup Islands only. Some yam (D. esculenta) is grown on Vokeo, Koil, Wei and Blupblup Islands. Tobacco is not common.

Sale of fresh food in Wewak is the most important source of cash. Oranges, galip nuts and Terminalia nuts are commonly sold, as is some fish. Some copra is sold. Cocoa has been planted but not much is produced. Some Robusta coffee has been planted, but it is not sold.

National Nutrition Survey 1982/83

72 familes from 1 village were asked in December 1982 what they had eaten the previous day. 74 per cent reported eating sweet potato, 40 per cent banana, 28 per cent coconut, 1 per cent taro and none yam, Chinese taro or cassava. 8 per cent reported eating rice. 3 per cent reported eating fresh fish. The high consumption of sweet potato and low consumption of taro and cassava in this one village differs from the crop pattern.

Main References

Borrell, O.W. 1989 An Annotated Checklist of the Flora of Kairiru Island, New Guinea. Bulleen, Victoria, Mardellus College.

Hogbin, H.I. 1938 Tillage and collection in a New Guinea economy. Oceania 9, 2-3, 127-151, 286-325.

Other References

Hogbin, H.I. 1935 Trading expeditions in northern New Guinea. Oceania 5, 375-407.

PROVINCE 14 East Sepik	**AGRICULTURAL SYSTEM No.** 15	**Subsystem No.** 1 **of** 1
Districts 1 Angoram, 4 Ambunti	**Subsystem Extent** 100 %	**Area (sq km)** 468
Population 306	**Population density** 1 **persons/sq km**	**Population absent** 22 **%**

System Summary

A very low intensity system located between the Sepik River and the headwaters of the southern tributaries of the Sepik River. Sago and taro are the most important foods; the former providing half of all dietary calories. Sweet potato is an important crop; other crops are banana, cassava and yam (D. esculenta). Gardens are cleared from tall woody regrowth or previously unused forest. Trees are felled but frequently not burnt. Only one planting is made before fallowing. Hunting and fishing are important.

Extends across provincial border to System(s) None

Altitude range (m) 200-800 **Slope** Multiple classes

CROPS

STAPLES DOMINANT	Sago, Taro (Colocasia)
STAPLES SUBDOMINANT	Sweet potato
STAPLES PRESENT	Banana, Cassava, Sago, Sweet potato, Taro (Colocasia), Yam (D. esculenta)
OTHER VEGETABLES	Aibika, Amaranthus spp., Cucumber, Highland pitpit, Lowland pitpit, Nasturtium spp., Pumpkin fruit, Pumpkin tips, Tulip
FRUITS	Marita pandanus, Pawpaw, Sugarcane
NUTS	Breadfruit, Eleocarpus
NARCOTICS	Betel nut (lowland), Betel pepper (lowland), Tobacco

FALLOW & CROPPING PERIOD

FALLOW TYPE	Tall woody regrowth
SHORT FALLOW	None
LONG FALLOW PERIOD	>15 years
CROPPING PERIOD	1 planting
R VALUE	5 (very low)

GARDEN SEGREGATION

GARDEN SEGREGATION	None
CROP SEGREGATION	Minor
CROP SEQUENCES	None
MIXED VEGETABLE GARDENS	None
HOUSEHOLD GARDENS	None

SOIL FERTILITY MAINTENANCE

LEGUME ROTATION	None
PLANTED TREE FALLOW	None
COMPOST	None
ANIMAL MANURE	None
ISLAND BED	None
SILT FROM FLOOD	None
INORGANIC FERTILISER	None

CASH EARNING ACTIVITIES

1 Animal skins	Minor

OTHER AGRONOMIC PRACTICES

Water Management:	
DRAINAGE	None
IRRIGATION	None
Soil Management:	
PIGS PLACED IN GARDENS	None
BURN FALLOW VEGETATION	Minor
TILLAGE	None
MECHANIZATION	None
DEEP HOLING	None
MULCHING	None
SOIL RETENTION BARRIERS	None
Mounding Techniques:	
VERY SMALL MOUNDS	None
SMALL MOUNDS	None
MOUNDS	None
LARGE MOUNDS	None
Garden Bed Techniques:	
BEDS SQUARE	None
BEDS LONG	None
Other Features:	
FENCES	Very significant
STAKING OF CROPS	Minor
FALLOW CUT ONTO CROPS	None
SEASONAL MAIN CROPS	None
SEASONAL SEC'DARY CROPS	None

OTHER DOCUMENTATION

Survey description

Not visited. Based on Dornstreich's (1973, 1977) description of eleven months ethnographic research in 1967-68; and interviews with students from the area at Kompiam High School (Enga) in November 1990.

Boundary definition

The northern boundary with System 1402 was taken as the 200 m contour (from Dornstreich 1973, 1977). The southern boundary with System 1416 was taken as the 800 m contour because sago, an important food in System 1415, is uncommon above this altitude.

Notes

This system is distinguished from System 1402 where sago is the most important food; and from System 1416 where sweet potato is the most important food.

The scattered areas of land use which comprise this system do not all contain census points, although they may be presently occupied. People live in small, widely dispersed hamlets, which are moved frequently.

National Nutrition Survey 1982/83

No villages from this system were included in the survey.

Main References

Dornstreich, M.P. 1973 An ecological study of Gadio Enga (New Guinea) subsistence. PhD thesis, Columbia University, New York.

Dornstreich, M.P. 1977 The ecological description and analysis of tropical subsistence patterns: an example from New Guinea. In Bayliss-Smith, T.P. and R. Feachem (eds), Subsistence and Survival: Rural Ecology in the Pacific. London, Academic Press, 245-271.

Dye, W. 1990 Economic development at the grass roots: Wagu village 1963-83. In Lutkehaus, N., C. Kaufmann, W.E. Mitchell, D. Newton, L. Osmundsen and M. Schuster (eds), Sepik Heritage: Tradition and Change in Papua New Guinea. Durham, North Carolina, Carolina Academic Press, 245-272.

Other References

Haantjens, H.A., J.M. Arnold, J.R. McAlpine, J.A. Mabbutt, E. Reiner, R.G. Robbins and J.C. Saunders 1968 Lands of the Wewak-Lower Sepik area, Territory of Papua and New Guinea. Land Research Series No. 22, Commonwealth Scientific and Industrial Research Organisation, Melbourne.

Haantjens, H.A., P.C. Heyligers, J.R. McAlpine, J.C. Saunders and R.H. Fagan 1972 Lands of the Aitape-Ambunti area, Papua New Guinea. Land Research Series No. 30, Commonwealth Scientific and Industrial Research Organisation, Melbourne.

PROVINCE 14 East Sepik	**AGRICULTURAL SYSTEM No.** 16	**Subsystem No.** 1 **of** 1
Districts 1 Angoram	**Subsystem Extent** 100 %	**Area (sq km)** 63
Population 0	**Population density** 0 **persons/sq km**	**Population absent** 0 **%**

System Summary

Located along the border between the East Sepik and Enga Provinces, in the Yenkis and Maramuni areas. The area is very lightly populated. Tall woody regrowth, more than 15 years old, is cleared. Trees are felled or pollarded and vegetation is burnt. Sweet potato is the most important crop; taro is an important crop; other crops are banana, sago, cassava and yam (D. alata). Only one planting is made before fallowing. Within gardens, taro and yam are grown in separate sections from sweet potato. Gardens are planted between October and December each year. Household gardens are common. Hunting is important.

Extends across provincial border to System(s) 0805

Altitude range (m) 800-1200 **Slope** Multiple classes

CROPS

STAPLES DOMINANT	Sweet potato
STAPLES SUBDOMINANT	Taro (Colocasia)
STAPLES PRESENT	Banana, Cassava, Sago, Sweet potato, Taro (Colocasia), Yam (D. alata)
OTHER VEGETABLES	Bean (common), Corn, Cucumber, Lowland pitpit, Peanuts, Pumpkin tips
FRUITS	Marita pandanus, Pawpaw, Pineapple, Sugarcane
NUTS	Breadfruit, Pangium edule
NARCOTICS	Betel nut (lowland), Betel pepper (lowland), Tobacco

FALLOW & CROPPING PERIOD

FALLOW TYPE	Tall woody regrowth
SHORT FALLOW	None
LONG FALLOW PERIOD	>15 years
CROPPING PERIOD	1 planting
R VALUE	5 (very low)

GARDEN SEGREGATION

GARDEN SEGREGATION	None
CROP SEGREGATION	Significant
CROP SEQUENCES	Minor
MIXED VEGETABLE GARDENS	None
HOUSEHOLD GARDENS	Significant

SOIL FERTILITY MAINTENANCE

LEGUME ROTATION	None
PLANTED TREE FALLOW	None
COMPOST	None
ANIMAL MANURE	None
ISLAND BED	None
SILT FROM FLOOD	None
INORGANIC FERTILISER	None

CASH EARNING ACTIVITIES

1 Animal skins	Minor

OTHER AGRONOMIC PRACTICES

Water Management:	
DRAINAGE	None
IRRIGATION	None
Soil Management:	
PIGS PLACED IN GARDENS	None
BURN FALLOW VEGETATION	Very significant
TILLAGE	None
MECHANIZATION	None
DEEP HOLING	None
MULCHING	None
SOIL RETENTION BARRIERS	Minor
Mounding Techniques:	
VERY SMALL MOUNDS	None
SMALL MOUNDS	Minor
MOUNDS	None
LARGE MOUNDS	None
Garden Bed Techniques:	
BEDS SQUARE	None
BEDS LONG	None
Other Features:	
FENCES	Very significant
STAKING OF CROPS	Minor
FALLOW CUT ONTO CROPS	None
SEASONAL MAIN CROPS	Significant
SEASONAL SEC'DARY CROPS	Very significant

OTHER DOCUMENTATION

Survey description

In February and November 1980, one day visits by helicopter to Yenkis, Lapalama, Rum and Kompiam. In November 1990, information was collected by interviewing students from the area, at Kompiam high school but the system was not visited. The small part of the system that lies in East Sepik Province was not visited.

Boundary definition

The boundary with System 0803 was determined from visits to Yenkis and interviews at Kompiam high school. In East Sepik Province, the northern boundary with System 1415 is based on the 800 m contour because sago, an important food in System 1415, but not in this system, is not common above that altitude.

Notes

This system is distinguished from System 0803 to the south where fallow vegetation is tall grass and tall woody regrowth. It contracts with the system to the north (System 1415) where sago and taro are the most important foods.

Information about this system is of poor quality. The system ranges in altitude between around 300 m on the Yuat River to 1900 m, and extends across the East Sepik Province border.

The system is an extensive shifting cultivation system, in contrast to the majority of systems in Enga Province. Gardens are said to be cleared between July and September and planted between October and December. Taro and yam are said to be segregated from sweet potato within the garden. After the harvest, pigs are placed in gardens to forage, and fences are repaired. Hunting is said to be important. Sago is planted at lower altitudes and is infrequently used as food.

No population is assigned to this system because all census points are located in Enga Province.

National Nutrition Survey 1982/83

No villages from this system were included in the survey.

Main References

None.

Other References

Bourke, R.M. and D.A.M. Lea 1982 Subsistence horticulture. In Carrad, B., D.A.M. Lea and K.K. Talyaga (eds), Enga: Foundations for Development. Armidale, University of New England, 76-92.

PROVINCE 14 East Sepik	**AGRICULTURAL SYSTEM No.** 17	**Subsystem No.** 1 **of** 1
Districts 4 Ambunti	**Subsystem Extent** 100 %	**Area (sq km)** 3414
Population 4,399	**Population density** 1 **persons/sq km**	**Population absent** 5 **%**

System Summary
Located in areas of swamp and frequent flooding north and south of the Sepik River and west of Ambunti. Sago is the most important food. Hunting, fishing and the collection of wild vegetable foods are important activities. Agriculture is not an important source of food. Small food gardens are made by a minority of households (less than 30 per cent). Tall woody regrowth, greater than 20 years old, is cleared and burnt. Crops grown are banana, taro and sweet potato. Only one planting is made before fallow.

Extends across provincial border to System(s) 1504

Altitude range (m) 50-150 **Slope** Gentle (2-10 degrees)

CROPS

STAPLES DOMINANT	Sago
STAPLES SUBDOMINANT	None
STAPLES PRESENT	Banana, Sago, Sweet potato, Taro (Colocasia)
OTHER VEGETABLES	Aibika, Amaranthus spp., Corn, Cucumber, Ferns, Kangkong, Lowland pitpit, Nasturtium spp., Pumpkin tips, Tulip
FRUITS	Marita pandanus, Pawpaw, Sugarcane, Ton
NUTS	Breadfruit, Coconut, Pangium edule
NARCOTICS	Betel nut (lowland), Betel pepper (lowland), Tobacco

FALLOW & CROPPING PERIOD

FALLOW TYPE	Tall woody regrowth
SHORT FALLOW	None
LONG FALLOW PERIOD	>15 years
CROPPING PERIOD	1 planting
R VALUE	5 (very low)

GARDEN SEGREGATION

GARDEN SEGREGATION	None
CROP SEGREGATION	Minor
CROP SEQUENCES	None
MIXED VEGETABLE GARDENS	None
HOUSEHOLD GARDENS	None

SOIL FERTILITY MAINTENANCE

LEGUME ROTATION	None
PLANTED TREE FALLOW	None
COMPOST	None
ANIMAL MANURE	None
ISLAND BED	None
SILT FROM FLOOD	None
INORGANIC FERTILISER	None

CASH EARNING ACTIVITIES

1 Crocodile	Minor
2 Tobacco	Minor

OTHER AGRONOMIC PRACTICES

Water Management:	
DRAINAGE	None
IRRIGATION	None
Soil Management:	
PIGS PLACED IN GARDENS	None
BURN FALLOW VEGETATION	Very significant
TILLAGE	None
MECHANIZATION	None
DEEP HOLING	None
MULCHING	None
SOIL RETENTION BARRIERS	None
Mounding Techniques:	
VERY SMALL MOUNDS	None
SMALL MOUNDS	Minor
MOUNDS	None
LARGE MOUNDS	None
Garden Bed Techniques:	
BEDS SQUARE	None
BEDS LONG	None
Other Features:	
FENCES	None
STAKING OF CROPS	Minor
FALLOW CUT ONTO CROPS	None
SEASONAL MAIN CROPS	None
SEASONAL SEC'DARY CROPS	None

OTHER DOCUMENTATION

Survey description

In June 1991, a visit to the Edwaki area of West Sepik (2 days); information from Kelm and Kelm (1980). The East Sepik part of this system was not visited.

Boundary definition

The boundaries with Systems 1402/1507 and 1511 were based on field visits in the Edwaki area; from Kelm and Kelm (1980), Townsend (1969) and Guddemi (1992); and map interpretation of areas of low gradient, poorly drained topography.

Notes

This system is distinguished from the adjacent systems 1402/1507 and 1511 because agriculture is more important in those systems.

Kelm and Kelm (1980) describe this system from the West Sepik villages of Kweiftim and Abrau. They found `a general disinterest shown by a large part of the inhabitants ... in regard to ... cultivation'. People may not visit their gardens for months and although the failure of crops is frequent, to a large extent because of the lack of interest in agriculture, it is not a source of great concern to the gardeners. 'Productive activities such as hunting, the gaining of sago and gathering are ... sufficient on their own'. People are said to be now planting more gardens than previously. This is because game is becoming scarce and settlements are moving less to enable people to remain near health facilities and schools. Where sweet potato is grown, it is planted in small mounds 20 to 40 cm high and 40 to 100 cm in diameter. Some gardens are fenced. Mounding and fencing are recent adoptions. Fishing, an important source of food, is more important between May and August (drier months).

In places with better access, crocodile skins, live crocodiles and some Robusta coffee are marketed in very small amounts. By 1991, little coffee was being harvested because of low prices. The coffee was initially planted in food gardens. Tobacco is sold in local markets, especially to people who live near the Sepik River. Chillies have been grown but there was no buying in 1990 or 1991. Some fresh food is sold at Edwaki market.

National Nutrition Survey 1982/83

24 families from 4 villages were asked in November 1982 what they had eaten the previous day. 88 per cent reported eating sago, 25 per cent banana, 8 per cent coconut, 4 per cent cassava, 4 per cent sweet potato and none Chinese taro, taro and yam. None reported eating rice. None reported eating fresh fish. This is similar to the crop pattern except for the higher than expected consumption of banana. This is similar to the crop pattern except for the higher than expected consumption of banana.

Main References

Kelm, A. and H. Kelm 1980 Sago und Schwein: Ethnologie von Kweiftim und Abrau in Nordost-Neuguinea. Wiesbaden, Franz Steiner Verlang GMBH.
McSween, S. 1989 Traditional and Cash Crop Agriculture in Four Areas of Sandaun Province: A Compiled Profile and Analysis. Vanimo, Monitoring and Evaluation Unit, West Sepik Province Development Project.
Townsend, P.K.W. 1969 Subsistence and social organization in a New Guinea society. PhD thesis, University of Michigan, Ann Arbor.

Other References

Guddemi, P. 1992 When horticulturalists are like hunter-gatherers: the Sawiyano of Papua New Guinea. Ethnology 31, 4, 303-314.
Haantjens, H.A., P.C. Heyligers, J.R. McAlpine, J.C. Saunders and R.H. Fagan 1972 Lands of the Aitape-Ambunti area, Papua New Guinea. Land Research Series No. 30, Commonwealth Scientific and Industrial Research Organization, Melbourne.
Townsend, P.K. 1971 New Guinea sago gatherers: a study of demography in relation to subsistence. Ecology of Food and Nutrition 1, 19-24.
Townsend, P.K. 1974 Sago production in a New Guinea economy. Human Ecology 2, 3, 217-236.

PROVINCE 14 East Sepik	**AGRICULTURAL SYSTEM No.** 18	**Subsystem No.** 1 **of** 2
Districts 1 Angoram, 4 Ambunti	**Subsystem Extent** 75 %	**Area (sq km)** 1188
Population 5,941	**Population density** 5 **persons/sq km**	**Population absent** 40 **%**

System Summary

Located in the middle section of the Sepik River and the Chambri Lakes. Sago is the most important food. This system is the same as System 1413, except that between two-thirds and three-quarters of the sago eaten is imported in exchange for fish. Sago comes from System 1402/1507 to the north and south. Fishing for trade is a more important activity than agriculture and little food comes from gardening. Very small gardens are made on levee banks parallel to the rivers. Coconut is an important food. Two subsystems exist, one using woody regrowth (Subsystem 1) and the other cane grass fallows (Subsystem 2). The subsystems differ only in the fallow type and cropping period. In Subsystem 1, tall woody regrowth, usually 8-15 years old, is cleared and burnt. Yam (D. esculenta and D. alata) and taro are grown. In some locations perennial stands of banana are grown. Yam (D. alata) is cultivated in areas of regular flooding because of its shorter growing period. Both species of yam are cultivated where flooding is not as regular. Gardens are planted once only before fallowing. Crops are planted in separate sections of gardens. Cultivation is strongly seasonal with crops planted between May and July. The frequent deposition of silt is important in the maintenance of soil fertility.

Extends across provincial border to System(s) None

Altitude range (m) 10-40 **Slope** Flat (<2 degrees)

CROPS

STAPLES DOMINANT	None
STAPLES SUBDOMINANT	Coconut
STAPLES PRESENT	Coconut, Sago, Taro (Colocasia), Yam (D. alata), Yam (D. esculenta)
OTHER VEGETABLES	Aibika, Amaranthus spp., Corn, Kangkong, Tulip
FRUITS	Banana, Sugarcane, Ton, Watermelon
NUTS	Breadfruit
NARCOTICS	Betel nut (lowland), Betel pepper (lowland), Tobacco

FALLOW & CROPPING PERIOD

FALLOW TYPE	Tall woody regrowth
SHORT FALLOW	None
LONG FALLOW PERIOD	5-15 years
CROPPING PERIOD	1 planting
R VALUE	9 (very low)

GARDEN SEGREGATION

GARDEN SEGREGATION	Minor
CROP SEGREGATION	Very significant
CROP SEQUENCES	None
MIXED VEGETABLE GARDENS	None
HOUSEHOLD GARDENS	Minor

SOIL FERTILITY MAINTENANCE

LEGUME ROTATION	None
PLANTED TREE FALLOW	None
COMPOST	None
ANIMAL MANURE	None
ISLAND BED	None
SILT FROM FLOOD	Very significant
INORGANIC FERTILISER	None

CASH EARNING ACTIVITIES

1 Fish	Significant
2 Betel nut	Minor
3 Crocodile	Minor
4 Tobacco	Minor

OTHER AGRONOMIC PRACTICES

Water Management:	
DRAINAGE	None
IRRIGATION	None
Soil Management:	
PIGS PLACED IN GARDENS	None
BURN FALLOW VEGETATION	Very significant
TILLAGE	None
MECHANIZATION	None
DEEP HOLING	None
MULCHING	None
SOIL RETENTION BARRIERS	None
Mounding Techniques:	
VERY SMALL MOUNDS	None
SMALL MOUNDS	Minor
MOUNDS	None
LARGE MOUNDS	None
Garden Bed Techniques:	
BEDS SQUARE	None
BEDS LONG	None
Other Features:	
FENCES	Minor
STAKING OF CROPS	Minor
FALLOW CUT ONTO CROPS	None
SEASONAL MAIN CROPS	None
SEASONAL SEC'DARY CROPS	Very significant

OTHER DOCUMENTATION

Survey description

In July 1991, a traverse by boat from Angoram to Ambunti on Sepik River; Keram River to Kambot village; Yuat River to Biwat village (7 days).

Boundary definition

Boundaries with Systems 1402/1507, 1413 and 1419/1308 were determined from boat traverses on the Keram, Yuat and Sepik Rivers; and from Haantjens et al. (1968), Hauser-Schaublin (1977 and pers. comm. 1993), Gewertz (1977) and Harrison (1990 and pers. comm. 1993).

Notes

Large areas of open water result in less access to natural sago stands than elsewhere on the Sepik River, but favour fishing. Settlements have become established through the historical development of important trading relationships with people in neighbouring systems (Gewertz, 1977; Hauser-Schaublin, 1977; Schindlbeck, 1980). People in some other Sepik River villages also obtain most of their sago through exchange for fish. At Pinau village, just below the Yuat River junction, villagers purchase their sago and sell fish at Kundima and Biwat villages on the Yuat River. Previously sago was bartered for fish, but cash is now used. Agriculture is regulated by the annual rise and fall of the Sepik River. Almost all gardens are planted between May and July and are harvested between August and December. Gardening provides a seasonal supply of tubers and other quick growing crops like corn. Many crops including yam are planted in rows. The segregation of crops including yam, sweet potato, corn, tobacco, taro and watermelon is notable. Yam is staked to 4 m. Yam (D. alata) is planted in very small mounds (10-15 cm high by 20-40 cm diameter) and sweet potato in small mounds (30-40 cm by 80-100 cm). During the period of high water, woven pitpit fences are employed to catch silt, especially on the inside bends of the main river. This is done to create sites for food gardens.

The importance of different cash income sources varies from place to place: they include fish, tobacco, betel nut, fresh food, artifacts, pottery, crocodile skins and the tourist industry. Women do most of the fishing. Men are very engaged in carving artifacts for sale to tourists.

National Nutrition Survey 1982/83

48 families from 3 villages were asked in November 1982 and November 1983 what they had eaten the previous day. 77 per cent reported eating sago, 65 per cent coconut, 60 per cent sweet potato, 8 per cent banana, 4 per cent taro, 2 per cent cassava, and none yam or Chinese taro. 15 per cent reported eating rice. 75 per cent reported eating fresh fish. This is similar to the crop pattern except for the higher than expected consumption of sweet potato.

Main References

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Quin, F.M. 1984 Farming systems of East Sepik Province, Papua New Guinea. Unpublished report, East Sepik Rural Development Project, Wewak.

Other References

Bateson, G. 1932 Social structure of the Iatmul people of the Sepik River. Oceania 2, 3, 245-291.

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Schindlbeck, M. 1980 Sago bei den Sawos (Mittelsepik, Papua New Guinea). Basler Beiträge zur Ethnologie, Band 19, Ethnologische Seminar der Universität und Museum für Völkerkunde, Basel.

Takendu, D. 1977 Tilapia marketing in the East Sepik Province. BA (Hons) thesis, University of Papua New Guinea, Port Moresby.

PROVINCE 14 East Sepik **AGRICULTURAL SYSTEM No.** 18 **Subsystem No.** 2 **of** 2

Districts 1 Angoram, 4 Ambunti **Subsystem Extent** 25 %

System Summary

In Subsystem 2 tall cane grass fallows, usually 5-10 years old, are cleared and burnt. Yam (D. esculenta and D. alata) and taro are grown. In some locations perennial stands of banana are grown. Yam (D. alata) is cultivated in areas of regular flooding because of its shorter growing period. Both species of yam are cultivated where flooding is not as regular. About half of all gardens are planted twice before fallowing; in a minority as many as four plantings are made. Crops are planted in separate sections of gardens. Garden activity is strongly seasonal with crops planted between May and July. The frequent deposition of silt is important in the maintenance of soil fertility.

Extends across provincial border to System(s) None

Altitude range (m) 10-40 **Slope** Flat (<2 degrees)

CROPS

STAPLES DOMINANT	None
STAPLES SUBDOMINANT	Coconut
STAPLES PRESENT	Coconut, Sago, Taro (Colocasia), Yam (D. alata), Yam (D. esculenta)
OTHER VEGETABLES	Aibika, Amaranthus spp., Corn, Kangkong, Tulip
FRUITS	Banana, Sugarcane, Ton, Watermelon
NUTS	Breadfruit
NARCOTICS	Betel nut (lowland), Betel pepper (lowland), Tobacco

FALLOW & CROPPING PERIOD

FALLOW TYPE	Tall grass
SHORT FALLOW	None
LONG FALLOW PERIOD	5-15 years
CROPPING PERIOD	2 plantings
R VALUE	17 (low)

GARDEN SEGREGATION

GARDEN SEGREGATION	Minor
CROP SEGREGATION	Very significant
CROP SEQUENCES	None
MIXED VEGETABLE GARDENS	None
HOUSEHOLD GARDENS	Minor

SOIL FERTILITY MAINTENANCE

LEGUME ROTATION	None
PLANTED TREE FALLOW	None
COMPOST	None
ANIMAL MANURE	None
ISLAND BED	None
SILT FROM FLOOD	Very significant
INORGANIC FERTILISER	None

CASH EARNING ACTIVITIES

1 Fish	Significant
2 Betel nut	Minor
3 Crocodile	Minor
4 Tobacco	Minor

OTHER AGRONOMIC PRACTICES

Water Management:	
DRAINAGE	None
IRRIGATION	None
Soil Management:	
PIGS PLACED IN GARDENS	None
BURN FALLOW VEGETATION	Very significant
TILLAGE	None
MECHANIZATION	None
DEEP HOLING	None
MULCHING	None
SOIL RETENTION BARRIERS	None
Mounding Techniques:	
VERY SMALL MOUNDS	None
SMALL MOUNDS	Minor
MOUNDS	None
LARGE MOUNDS	None
Garden Bed Techniques:	
BEDS SQUARE	None
BEDS LONG	None
Other Features:	
FENCES	Minor
STAKING OF CROPS	Minor
FALLOW CUT ONTO CROPS	None
SEASONAL MAIN CROPS	None
SEASONAL SEC'DARY CROPS	Very significant

OTHER DOCUMENTATION

Notes

This is Quin's (nd) system 3a, garden types (i) and (ii). Most gardens are cleared from tall grass on levee banks, but some smaller areas of short grass on the river banks are used. Information on the number of crops planted was recorded in 29 gardens that followed cane grass fallows in Systems 1413 and 1418 (11 gardens in System 1413 and 8 gardens in 1418). In 17 gardens, the planting was the first since fallow; in 8 gardens, it was the second planting; in 3 it was the third; and in 1 garden it was the fourth planting. This contrasts with the generalized statements by villagers that normally cane grass gardens were planted 5 times before fallowing.

PROVINCE 14 East Sepik	**AGRICULTURAL SYSTEM No.** 19	**Subsystem No.** 1 **of** 1
Districts 1 Angoram	**Subsystem Extent** 100 %	**Area (sq km)** 377
Population 6,957	**Population density** 18 **persons/sq km**	**Population absent** 16 **%**

System Summary

Located on the Ramu Plain above the annual flood level, from Aiome in the south to the Ramu mouth in Madang Province; and near the Keram River in East Sepik Province. Tall woody regrowth, more than 15 years old, is cleared and burnt. Sago is the most important food; taro, banana and sweet potato are important crops; other crops are yam (D. esculenta and D. alata), Chinese taro and cassava. Only one planting is made before fallow. Gardens are planted between July and September. The population figures above include people who live on the coast, on land completely planted in coconuts and who have access to garden sites inland.

Extends across provincial border to System(s) 1308

Altitude range (m) 10-200 **Slope** Gentle (2-10 degrees)

CROPS

STAPLES DOMINANT	Sago
STAPLES SUBDOMINANT	Banana, Sweet potato, Taro (Colocasia)
STAPLES PRESENT	Banana, Cassava, Chinese taro, Sago, Sweet potato, Taro (Colocasia), Yam (D. alata), Yam (D. esculenta)
OTHER VEGETABLES	Aibika, Corn, Ferns, Lowland pitpit, Pumpkin tips, Tulip, Bean (snake)
FRUITS	Mango, Marita pandanus, Pawpaw, Pineapple, Sugarcane, Watermelon
NUTS	Breadfruit, Coconut
NARCOTICS	Betel nut (lowland), Betel pepper (lowland), Tobacco

FALLOW & CROPPING PERIOD

FALLOW TYPE	Tall woody regrowth
SHORT FALLOW	None
LONG FALLOW PERIOD	>15 years
CROPPING PERIOD	1 planting
R VALUE	5 (very low)

GARDEN SEGREGATION

GARDEN SEGREGATION	None
CROP SEGREGATION	None
CROP SEQUENCES	Minor
MIXED VEGETABLE GARDENS	None
HOUSEHOLD GARDENS	Minor

SOIL FERTILITY MAINTENANCE

LEGUME ROTATION	None
PLANTED TREE FALLOW	None
COMPOST	None
ANIMAL MANURE	None
ISLAND BED	None
SILT FROM FLOOD	Minor
INORGANIC FERTILISER	None

CASH EARNING ACTIVITIES

1 Betel nut	Minor
2 Fish	Minor
3 Fresh food	Minor

OTHER AGRONOMIC PRACTICES

Water Management:	
DRAINAGE	None
IRRIGATION	None
Soil Management:	
PIGS PLACED IN GARDENS	None
BURN FALLOW VEGETATION	Very significant
TILLAGE	None
MECHANIZATION	None
DEEP HOLING	None
MULCHING	None
SOIL RETENTION BARRIERS	None
Mounding Techniques:	
VERY SMALL MOUNDS	None
SMALL MOUNDS	Minor
MOUNDS	None
LARGE MOUNDS	None
Garden Bed Techniques:	
BEDS SQUARE	None
BEDS LONG	None
Other Features:	
FENCES	Minor
STAKING OF CROPS	Minor
FALLOW CUT ONTO CROPS	None
SEASONAL MAIN CROPS	Minor
SEASONAL SEC'DARY CROPS	Minor

OTHER DOCUMENTATION

Survey description

In July 1991, a traverse from Bogia to Bak and Boroi villages, and from Hansa Bay to Bunapas mission and Buliva and Galek villages, via Sepen village (2 days). A vehicle traverse from Simbai to Aiome via Mambesap village and from Aiome station to the Ramu River (2 days). The East Sepik part of the system was not visited.

Boundary definition

The boundary with Systems 1304 was determined by traverses at Josephstaal and south of Wadaginam village east on new logging tracks and extrapolated on the 40 m contour, which is the approximate boundary between the lower hill country (System 1304) and the upper margins of the Ramu plain (this system). The boundaries with Systems 1305 and 1307 were based on a road traverse from Bogia to Bosmun mission and on data from Robbins et al. (1976) on land which is inundated seasonally (System 1307). The boundary with System 1315 is based on a road traverse between Simbai and Aiome and extrapolated on the 200 m contour. The boundary with System 1413 is based on a traverse on the Keram River and is somewhat arbitrary.

Notes

This system is very similar to the extensive System 1402/1507 that extends from the Keram River in East Sepik through East and West Sepik Provinces to the Indonesian border. It is distinguished only on small differences in the important crops.

Some minor differences exist between the Aiome area and areas further down the river: sago is the most important crop everywhere, but in the Aiome area sweet potato is an important crop, whereas it is not in the lower Ramu. In the lower Ramu area, taro is an important crop and sweet potato is not. It tends to be planted mainly following the harvest of yam and taro.

Gardens are cleared from June to August and taro, yam and banana are planted from July to September. Sweet potato planting is said to be non-seasonal. It is planted in small mounds between 20 to 30 cm high in the Aiome area. Yams are staked. Near Aiome, gardens are occasionally made in patches of grass to cultivate sweet potato or peanuts. It is said these gardens are followed by the regeneration of a woody regrowth fallow. At Aiome, cocoa has been planted and a fermentary constructed, but it was not operating in 1991. Robusta coffee has also been planted but was not being harvested. Rice was grown in this system in the 1960s.

Main sources of cash are the sale of betel nut, sago, fish and fresh food at Aiome station, Awar plantation, Bunapas mission and Bogia township. Sago, shellfish and yams are traded with people from Boisa and Manam Islands (Systems 1309 and 1310) in exchange for tobacco, galip nut, taro, betel nut, betel pepper and pigs (Lutkehaus 1985, 123-125).

National Nutrition Survey 1982/83

76 families from 6 villages were asked in November and December 1982 what they had eaten the previous day. 92 per cent reported eating sago, 57 per cent coconut, 8 per cent banana, 7 per cent yam, 4 per cent taro, 3 per cent sweet potato, 1 per cent cassava and none Chinese taro. 8 per cent reported eating rice. 54 per cent reported eating fresh fish. This is similar to the crop pattern.

Main References

None.

Other References

Lutkehaus, N. 1985 Pigs, politics, and pleasure: Manam perspectives on trade and regional integration. Research in Economic Anthropology 7, 123-141.

Robbins, R.G., H.A. Haantjens, J.A. Mabbutt, R. Pullen, E. Reiner, J.C. Saunders and K. Short 1976 Lands of the Ramu-Madang Area, Papua New Guinea. Land Research Series No. 37, Commonwealth Scientific and Industrial Research Organization, Melbourne.

PROVINCE 14 East Sepik	**AGRICULTURAL SYSTEM No.** 20	**Subsystem No.** 1 **of** 1
Districts 2 Wewak	**Subsystem Extent** 100 %	**Area (sq km)** 103
Population 2,878	**Population density** 28 **persons/sq km**	**Population absent** 31 **%**

System Summary

Located on Muschu, Kairiru, Yuo, Keresau, Walis and Tarawai Islands off Wewak. Sago is the most important food, with gardens providing some food. Fallow vegetation is short or tall woody regrowth, usually more than 15 years old. Fallow vegetation is cut, dried and burnt. Chinese taro, banana and coconut are important crops; other crops are sweet potato, taro and yam (D. esculenta). Soil retention barriers are placed in steep gardens on Kairiru. On Kairiru, separate gardens are made for tobacco, which is an important trade item.

Extends across provincial border to System(s) None

Altitude range (m) 0-500 **Slope** Multiple classes

CROPS

STAPLES DOMINANT	Sago
STAPLES SUBDOMINANT	Banana, Chinese taro, Coconut
STAPLES PRESENT	Banana, Chinese taro, Coconut, Sago, Sweet potato, Taro (Colocasia), Yam (D. esculenta)
OTHER VEGETABLES	Aibika, Amaranthus spp., Corn, Kumu musong, Tulip, Bean (snake)
FRUITS	Malay apple, Mango, Orange, Pawpaw, Pineapple, Sugarcane, Ton, Guava
NUTS	Breadfruit, Galip, Java almond, Pao, Polynesian chestnut
NARCOTICS	Betel nut (lowland), Betel pepper (lowland), Tobacco

FALLOW & CROPPING PERIOD

FALLOW TYPE	Short woody regrowth
SHORT FALLOW	None
LONG FALLOW PERIOD	>15 years
CROPPING PERIOD	1 planting
R VALUE	5 (very low)

GARDEN SEGREGATION

GARDEN SEGREGATION	None
CROP SEGREGATION	None
CROP SEQUENCES	None
MIXED VEGETABLE GARDENS	None
HOUSEHOLD GARDENS	Minor

SOIL FERTILITY MAINTENANCE

LEGUME ROTATION	None
PLANTED TREE FALLOW	None
COMPOST	None
ANIMAL MANURE	None
ISLAND BED	None
SILT FROM FLOOD	None
INORGANIC FERTILISER	None

CASH EARNING ACTIVITIES

1 Fish	Minor
2 Fresh food	Minor
3 Tobacco	Minor

OTHER AGRONOMIC PRACTICES

Water Management:	
DRAINAGE	None
IRRIGATION	None
Soil Management:	
PIGS PLACED IN GARDENS	None
BURN FALLOW VEGETATION	Very significant
TILLAGE	None
MECHANIZATION	None
DEEP HOLING	None
MULCHING	None
SOIL RETENTION BARRIERS	Minor
Mounding Techniques:	
VERY SMALL MOUNDS	None
SMALL MOUNDS	Minor
MOUNDS	None
LARGE MOUNDS	None
Garden Bed Techniques:	
BEDS SQUARE	None
BEDS LONG	None
Other Features:	
FENCES	None
STAKING OF CROPS	None
FALLOW CUT ONTO CROPS	None
SEASONAL MAIN CROPS	None
SEASONAL SEC'DARY CROPS	Minor

OTHER DOCUMENTATION

Survey description

In October 1974, garden visits at Ibun and Shem villages on Kairiru Island (1 day). In July 1991, visits to Yuo, Kairiru and Muschu Island (1 day).

Boundary definition

These islands were distinguished as a separate system following field traverses at nearby locations on the mainland and visits to Kairiru, Mushu and Yuo Islands.

Notes

This system is very similar to System 1402/1507 on the mainland, but is distinguished because short woody regrowth is more important than tall woody regrowth here and by minor differences in the important crops.

Villagers say that sago was introduced to the north side of Kairiru in the past 60 years. Previously, people there came to south Kairiru to make sago. Taro and banana were grown on the north side and exchanged for sago. As well as the crops listed, some yam (D. alata and D. esculenta) is grown. Yam (D. esculenta) is grown on stakes. Sweet potato is planted in small mounds. Some people on Kairiru plant sweet potato or Chinese taro after the harvest of yam (D. alata and D. esculenta), but generally only one planting is made before fallowing.

Tulip is the most important green vegetable. The fruit of Parartocarpus is eaten occasionally. Tobacco is grown in separate gardens on Kairiru Island and is an important trade item. It is sent to the Murik Lakes and Wogeo Island in exchange for galip nuts and pigs; and to Turubu in exchange for pots, baskets, shellfish and fish.

Some cash income is derived from the sale of fresh food, fish and tobacco in Wewak. Copra was produced in the past, but production had almost ceased by 1991. Some cocoa was planted in 1991. Bêche-de-mer is sold at times.

National Nutrition Survey 1982/83

33 families from 2 villages were asked in November 1982 what they had eaten the previous day. 88 per cent reported eating coconut, 82 per cent sago, 39 per cent banana, 27 per cent Chinese taro, 15 per cent sweet potato, 9 per cent taro and none cassava or yam. 18 per cent reported eating rice. 67 per cent reported eating fresh fish. This is similar to the crop pattern.

Main References

None.

Other References

Bourke, R.M. 1974 Food garden survey, Madang and East Sepik Districts. Unpublished report, Lowlands Agricultural Experiment Station, Keravat.

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4. AGRICULTURAL SYSTEMS: MAPS

The maps show the location of the Agricultural Systems identified in the Province and selected important characteristics of the systems. Where subsystems exist within an Agricultural System, the maps display information from the first subsystem only. Subsequent subsystem information is not displayed, but it is available in the text summaries. For crop combinations, cash income activities, population density and population absent, the maps show information for the entire system. A note in the key on the Agricultural Systems map lists the systems in which subsystems occur. Maps can be produced from computer files at any scale down to 1:500 000.

The following notes explain the classes used on the maps.

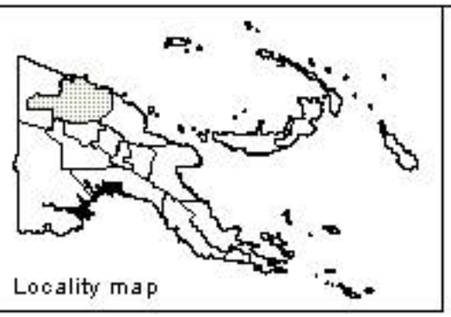
Map title	Notes
1. Agricultural Systems	Boundaries and identification numbers (eg. 1 = System 1401). See key for subsystem occurrences.
2. Fallow vegetation	The vegetation cleared from garden sites at the beginning of a new period of cultivation (8 classes).
3. Long fallow period	An estimate of the length of time land is left fallow before it is cultivated again (4 classes).
4. Number of plantings before fallow	The number of times staple crops are planted in the main gardens before those gardens are returned to a long fallow (5 classes).
5. Intensity of land use	Ratio of the cropping period (estimated from the number of plantings) to the length of the complete cultivation cycle, ie. cropping period plus fallow period (4 classes based on Ruthenberg's R factor)[1]. Very low: (R < 10) Low: (R = 10 - 32) Medium: (R = 33 - 66) High: (R > 66)
6. Crop combinations	Combinations of the most important (dominant staple) and important (subdominant staple) crops in this Province.

[1] R = (Number of years of cultivation x 100) / (Number of years of cultivation + Number of years of long fallow), (Ruthenberg 1980, 15)

Map title	Notes
7. Garden and crop segregation	Separation of crops into different gardens or into different plots within a garden (4 classes). A combination of Fields 28 and 29. For both fields, 'nil' and 'minor or insignificant' are defined as 'absent'; and 'significant' and 'very significant' as 'present'. Classes are: both absent = 'No segregation'; garden segregation present only = 'Garden segregation'; crop segregation present only = 'Crop segregation'; both present = 'Garden and crop segregation'.
8. Soil fertility maintenance	The presence or absence of the following: legume rotation, planted tree fallow, composting and mulching. For all features, 'nil' and 'minor or insignificant' are defined as 'absent'; and 'significant' and 'very significant' as 'present'.
9. Soil tillage	The use of tillage in the preparation of land for cultivation (4 classes).
10. Fallow clearing practices	A combination of the practices of burning fallow vegetation before planting, and cutting down fallows onto crops after planting. For both features, 'none' and 'minor or insignificant' are defined as 'absent'; and 'significant' and 'very significant' as 'present' (3 classes).
11. Soil mounds and beds	A combination of measures of significance for mounds and beds: Medium and large mounds are classed together as 'large mounds'. Square and long beds are classed together as 'beds'. Very small mounds are excluded. Absent = 'none' and 'minor or insignificant' for all mounds and beds. Present = 'significant' and 'very significant' for all mounds and beds (6 classes).
12. Water management techniques	The presence or absence of the following: drainage, irrigation and soil retention barriers. For all features, 'nil' and 'minor or insignificant' are defined as 'absent'; and 'significant' and 'very significant' as 'present' (4 classes).

Map title	Notes
13. Cash income activities	Combinations of cash earning activities specific to this province. For all activities, 'nil' and 'minor or insignificant' are defined as 'absent'; and 'significant' and 'very significant' as 'present'.
14. Seasonality of the main food crops	Whether the dominant staple (most important) crops and the subdominant staple (important) are planted at about the same time each year. 'Nil' and 'minor or insignificant' are defined as 'absent'; and 'significant' and 'very significant' as 'present' (2 classes).
15. Population density	Persons per square kilometre, based on the 1980 National Population Census and the area occupied by the System (6 classes). 'Not applicable' refers to Systems where there are no census points.
16. Population absent	The proportion of the 'total' population listed in the 1979 Provincial Data System Rural Community Register as being 'absent 6 months or more' from the Census Unit (5 classes). 'Not applicable' refers to Systems where either there are no census points, or where the PDS data do not distinguish between the 'total' and 'resident' populations.

EAST SEPIK PROVINCE
Agricultural systems



No agriculture

Agricultural system identified by number

Subsystems are present in Systems 5, 13, 18.

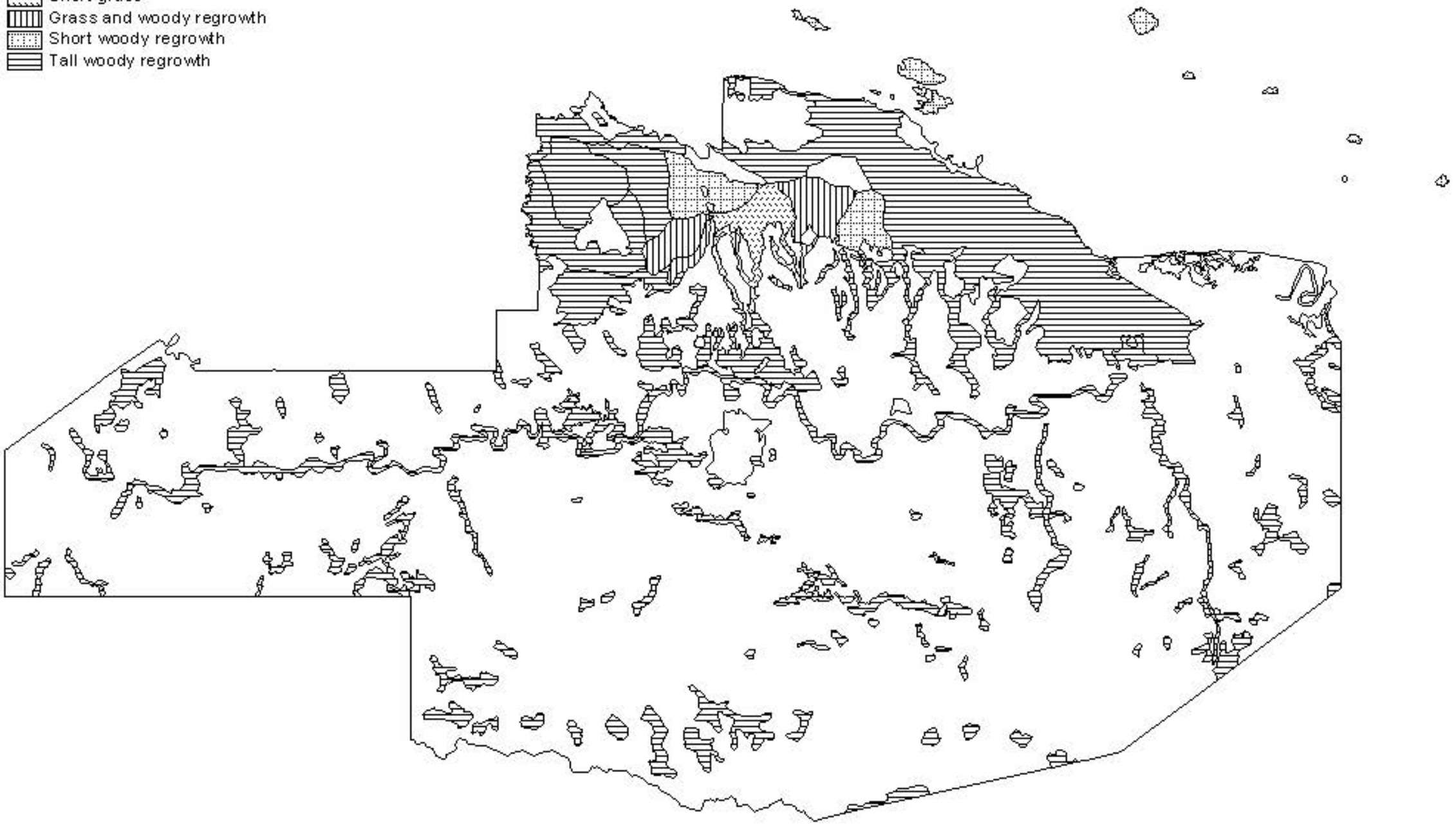
30 0 30 Kilometers

Mapping Agricultural Systems Project, Human Geography, ANU; PNG DAL; Geography, UPNG, 1999

Fallow vegetation

- No fallow
- Short grass
- Grass and woody regrowth
- Short woody regrowth
- Tall woody regrowth

EAST SEPIK PROVINCE



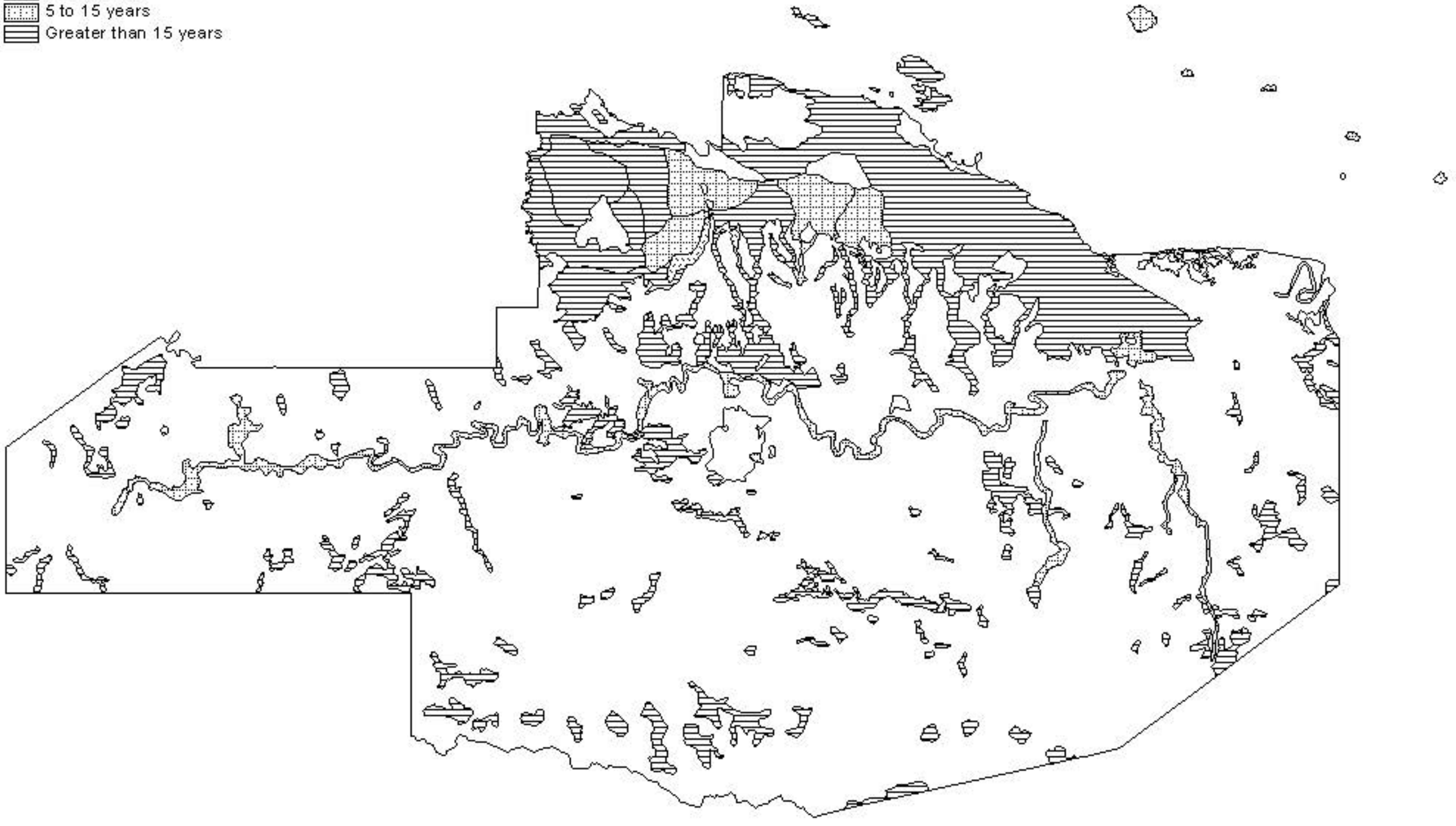
30 0 30 Kilometers

Mapping Agricultural Systems Project, Human Geography, ANU; PNG DAL; Geography, UPNG, 1999

Long fallow period

- Not significant
- 1 to 4 years
- 5 to 15 years
- Greater than 15 years

EAST SEPIK PROVINCE



30 0 30 Kilometers

Mapping Agricultural Systems Project, Human Geography, ANU; PNG DAL; Geography, UPNG, 1999

Number of plantings before fallow

None
One only
Two
Three to five

EAST SEPIK PROVINCE

30 0 30 Kilometers

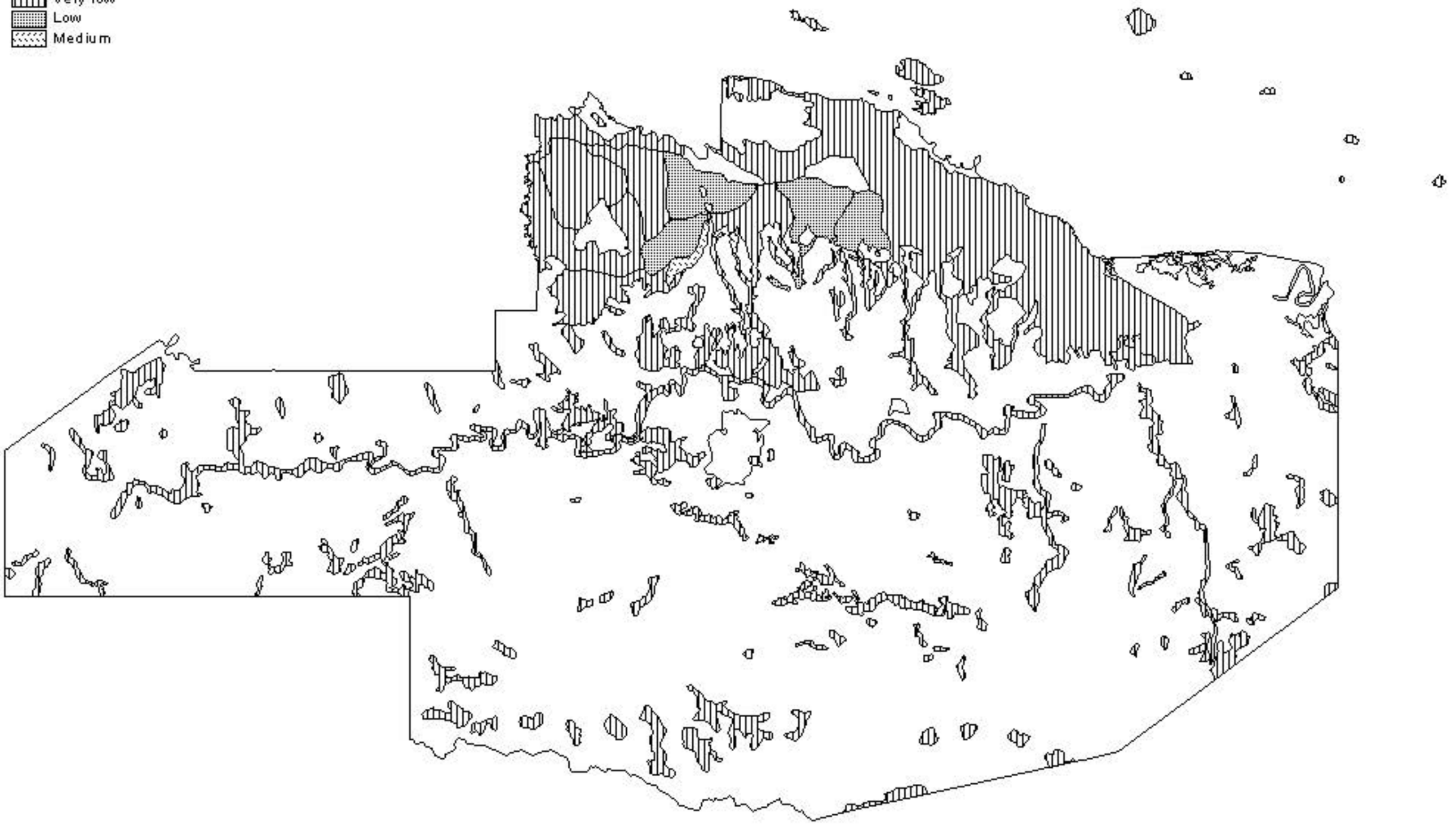
Mapping Agricultural Systems Project, Human Geography, ANU; PNG DAL; Geography, UPNG, 1999

Intensity of land use

Ratio of cropping period to fallow period

Very low
Low
Medium

EAST SEPIK PROVINCE



30 0 30 Kilometers

Mapping Agricultural Systems Project, Human Geography, ANU; PNG DAL; Geography, UPNG, 1999

Crop combinations

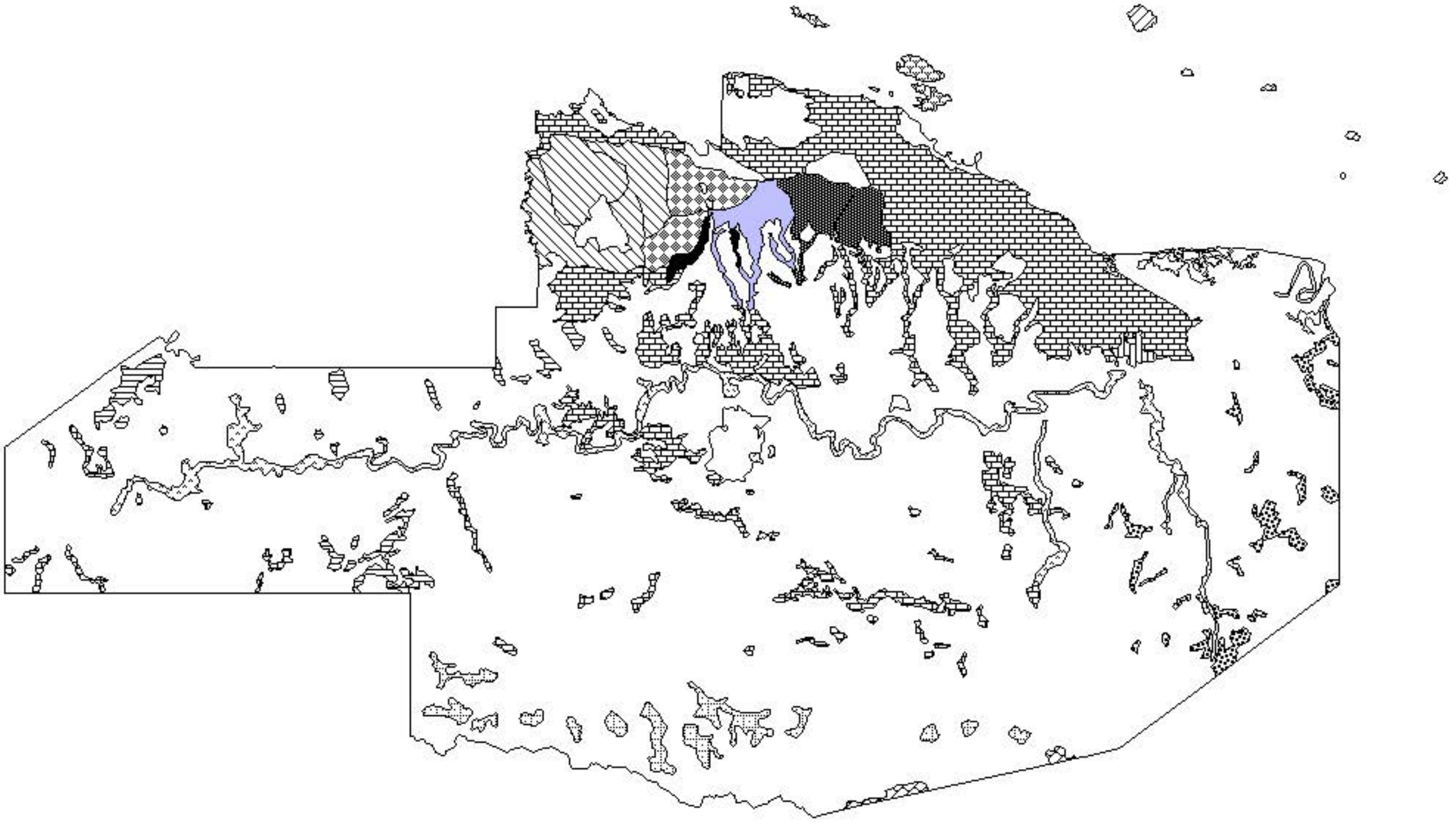
EAST SEPIK PROVINCE

	Most important crops	Important crops
	None	None
	None	Banana/Chinese taro/Sago/Sweet potato/Yam (D. esculenta)
	None	Coconut
	Banana	Cassava/Coconut/Sweet potato/Taro
	Banana/Yam (D. esculenta)	Coconut/Taro
	Sago	Banana/Chinese taro/Coconut/Taro
	Sago	None
	Sago	Banana/Sweet potato/Taro
	Sago	Coconut
	Sago	Banana/Chinese taro/Coconut
	Sago/Taro	Sweet potato
	Sweet potato	Taro
	Taro/Yam (D. esculenta)	Banana/Coconut/Sago
	Yam (D. esculenta)	Banana/Coconut/Taro
	Yam (D. esculenta)	Banana/Coconut/Sago/Taro
	Yam (D. esculenta)	Sago/Coconut/Taro

Crop Combinations

Legend on facing page

EAST SEPIK PROVINCE

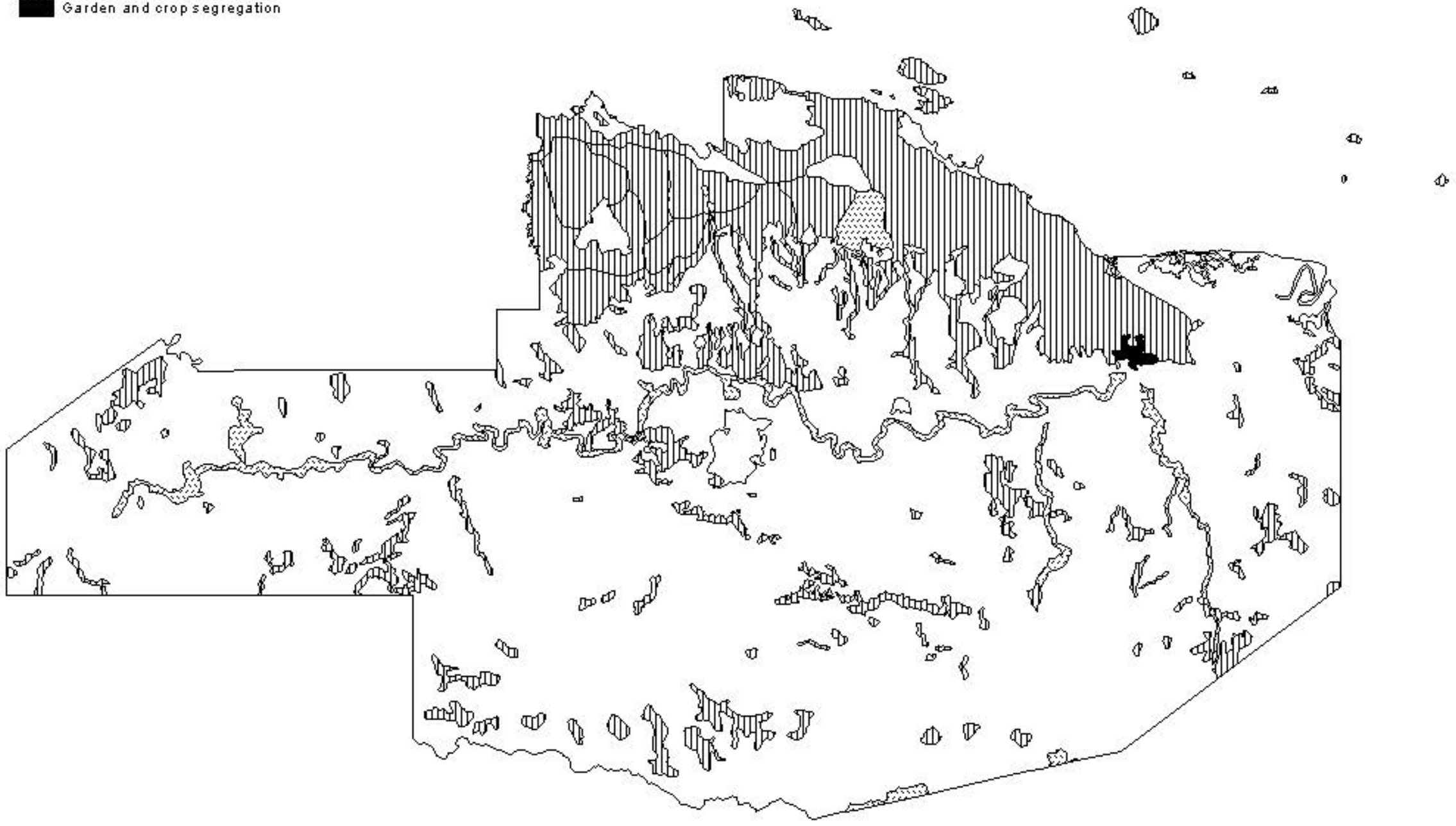


30 0 30 Kilometers

Mapping Agricultural Systems Project, Human Geography, ANU; PNG DAL; Geography, UPNG, 1999

Garden and crop segregation

EAST SEPIK PROVINCE



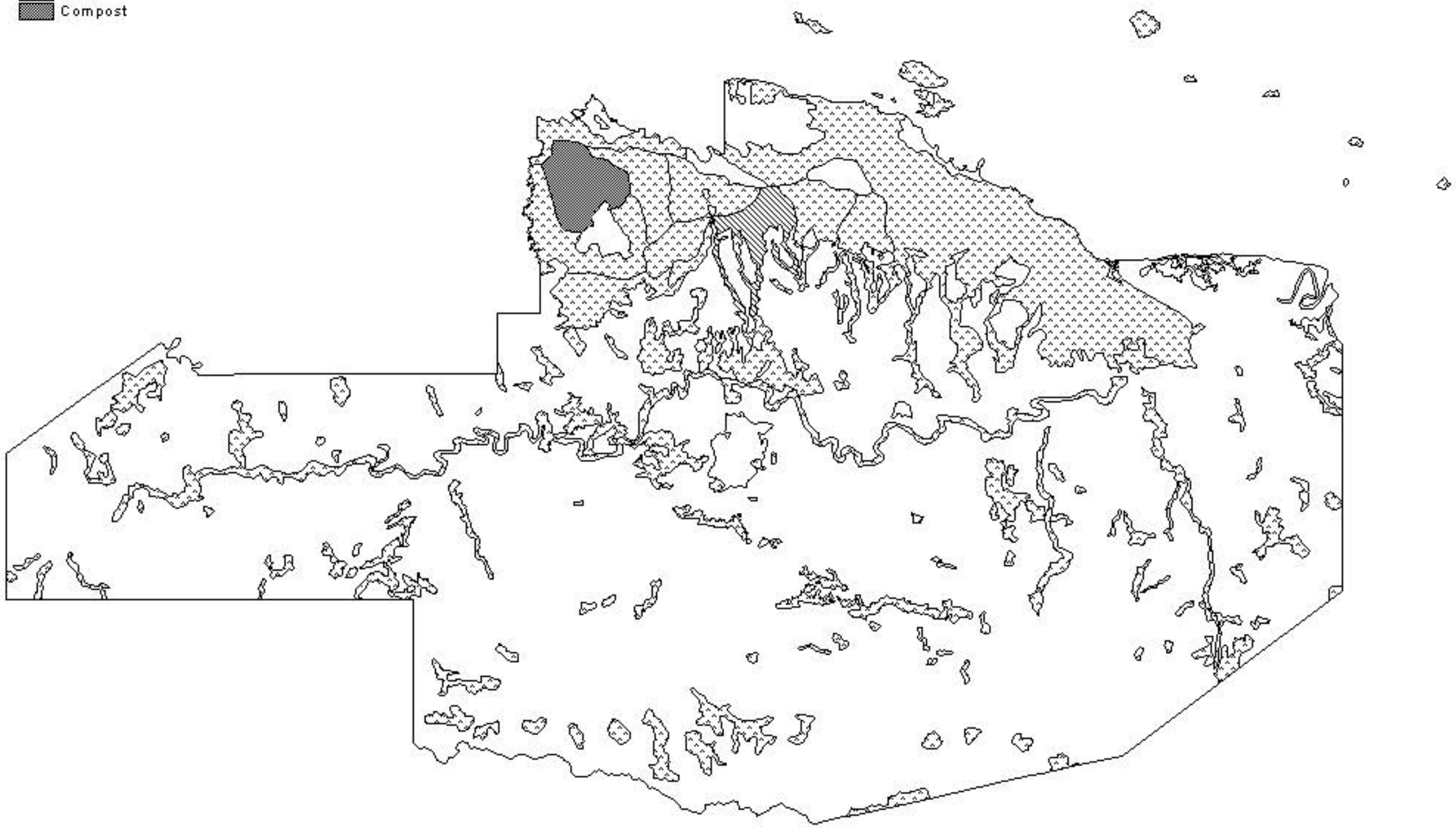
30 0 30 Kilometers

Mapping Agricultural Systems Project, Human Geography, ANU; PNG DAL; Geography, UPNG, 1999

Soil fertility maintenance

EAST SEPIK PROVINCE

- No technique
- Mulch
- Compost



30 0 30 Kilometers

Mapping Agricultural Systems Project, Human Geography, ANU; PNG DAL; Geography, UPNG, 1999

Soil tillage

None

EAST SEPIK PROVINCE

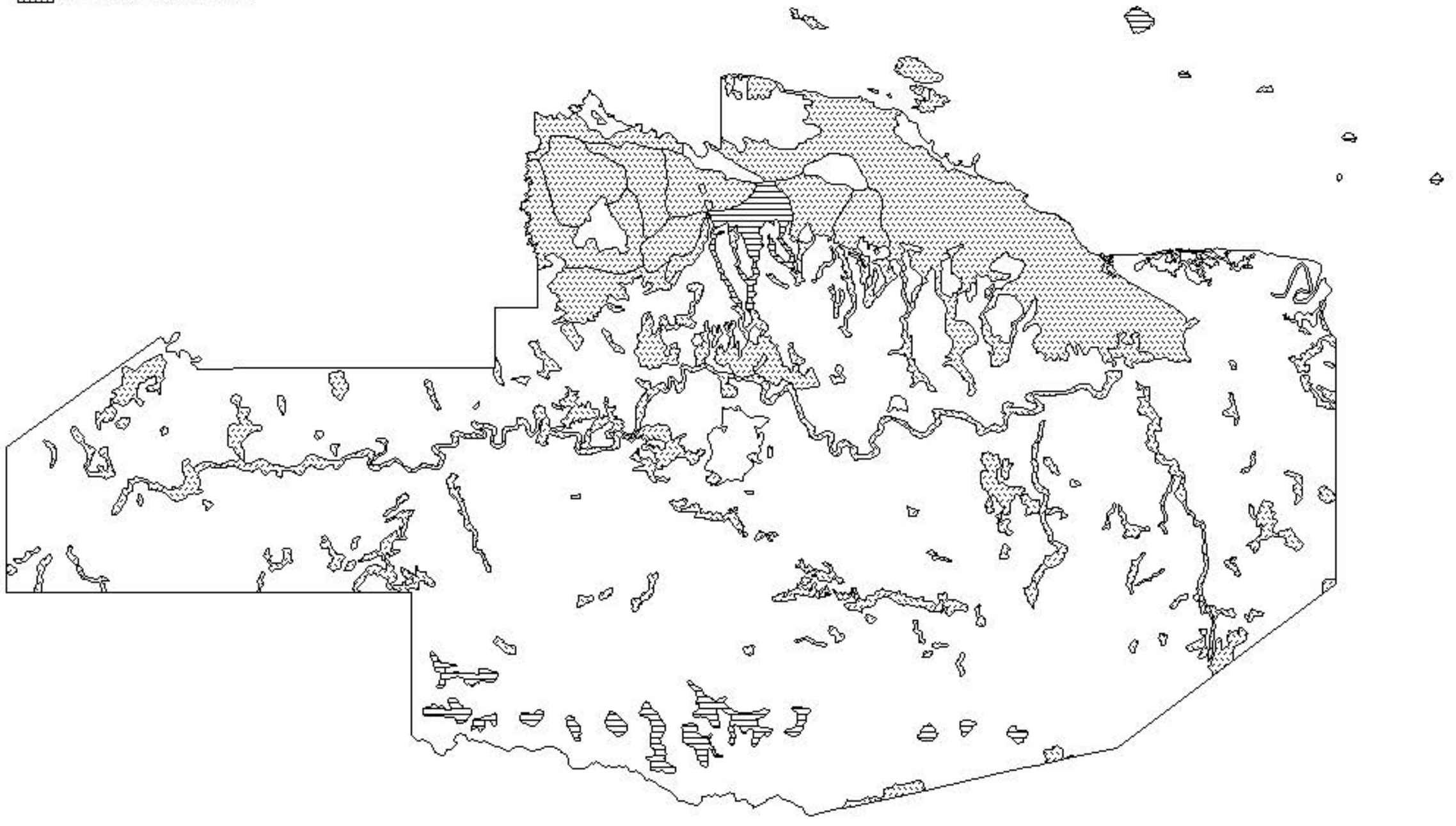
30 0 30 Kilometers

Mapping Agricultural Systems Project, Human Geography, ANU; PNG DAL; Geography, UPNG, 1999

Fallow clearing practices

Fallow not cut or burnt
Fallow burnt and not cut

EAST SEPIK PROVINCE



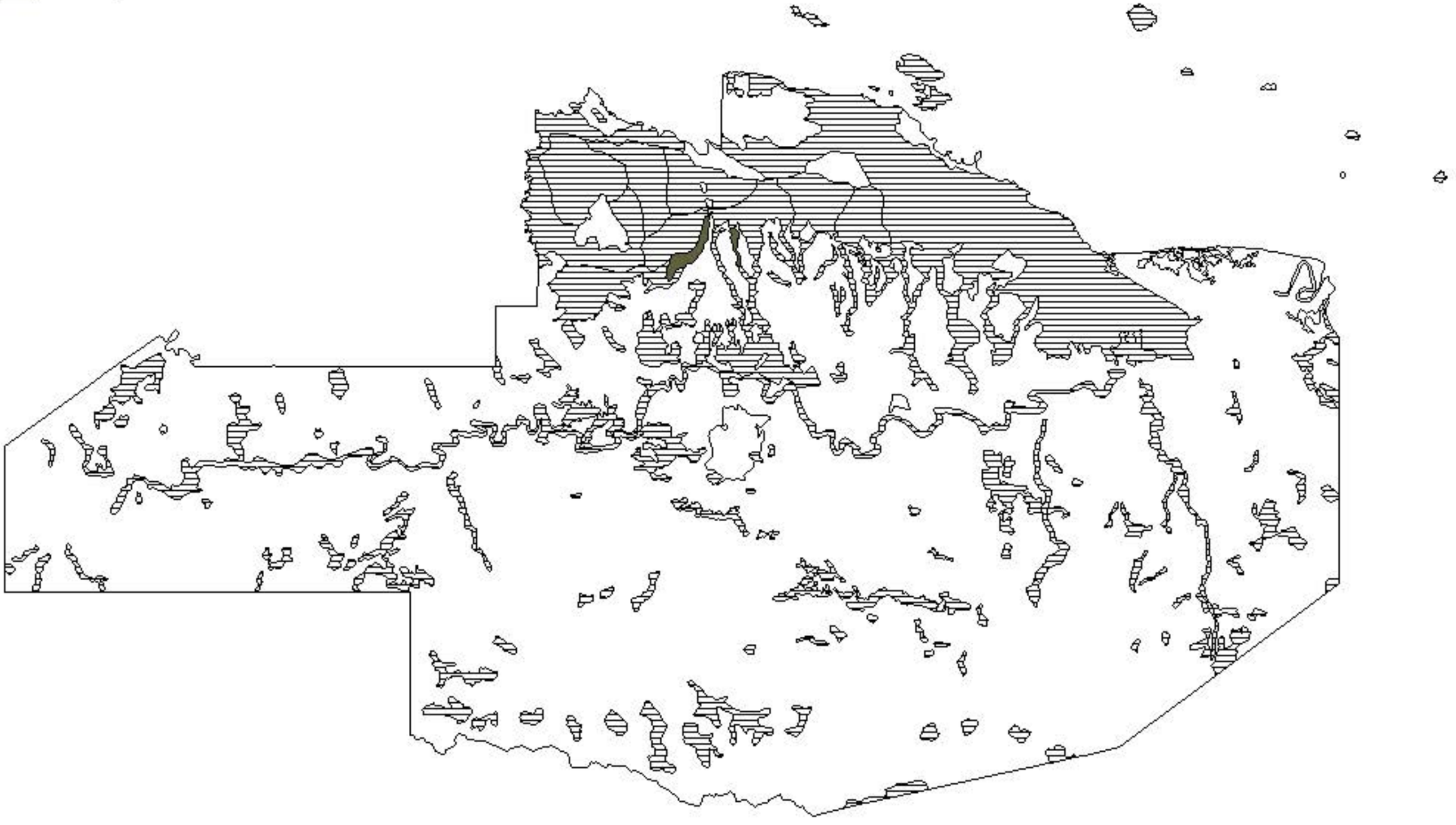
30 0 30 Kilometers

Mapping Agricultural Systems Project, Human Geography, ANU; PNG DAL; Geography, UPNG, 1999

Soil mounds and beds

Mounds and beds absent
Mounds present, and beds absent

EAST SEPIK PROVINCE



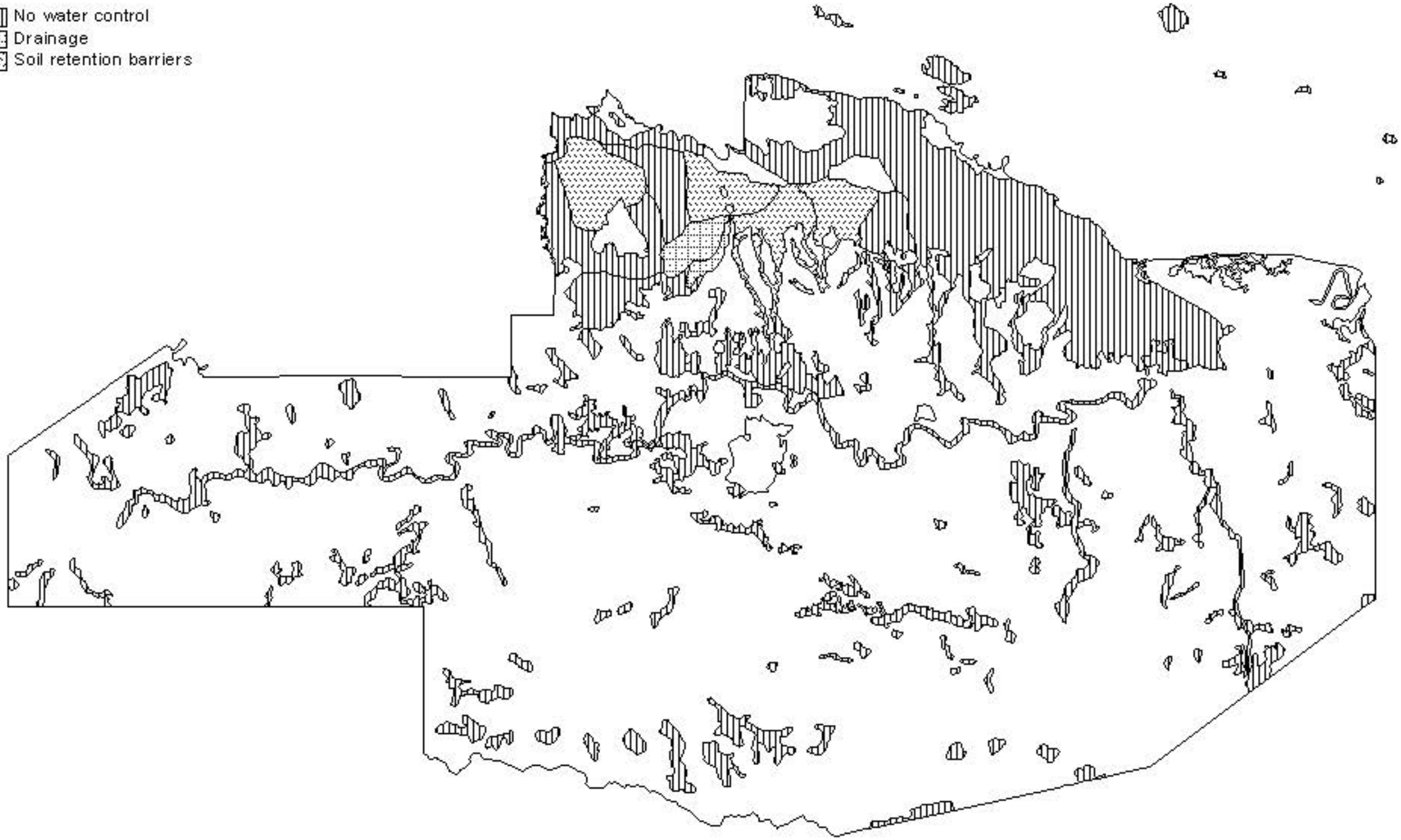
30 0 30 Kilometers

Mapping Agricultural Systems Project, Human Geography, ANU; PNG DAL; Geography, UPNG, 1999

Water management

- No water control
- Drainage
- Soil retention barriers

EAST SEPIK PROVINCE



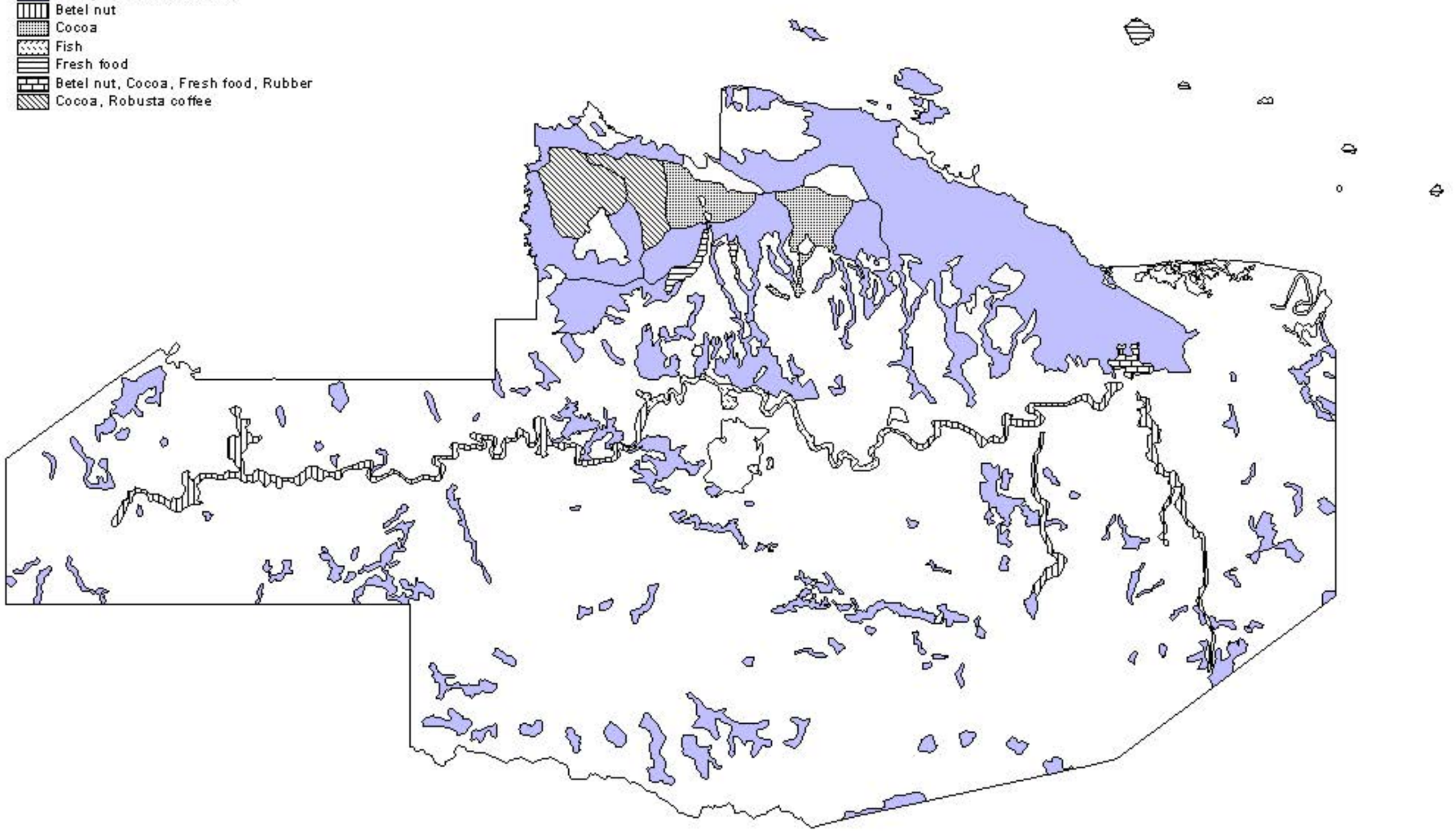
30 0 30 Kilometers

Mapping Agricultural Systems Project, Human Geography, ANU; PNG DAL; Geography, UPNG, 1999

Cash income activities

EAST SEPIK PROVINCE

- No significant cash income
- Betel nut
- Cocoa
- Fish
- Fresh food
- Betel nut, Cocoa, Fresh food, Rubber
- Cocoa, Robusta coffee



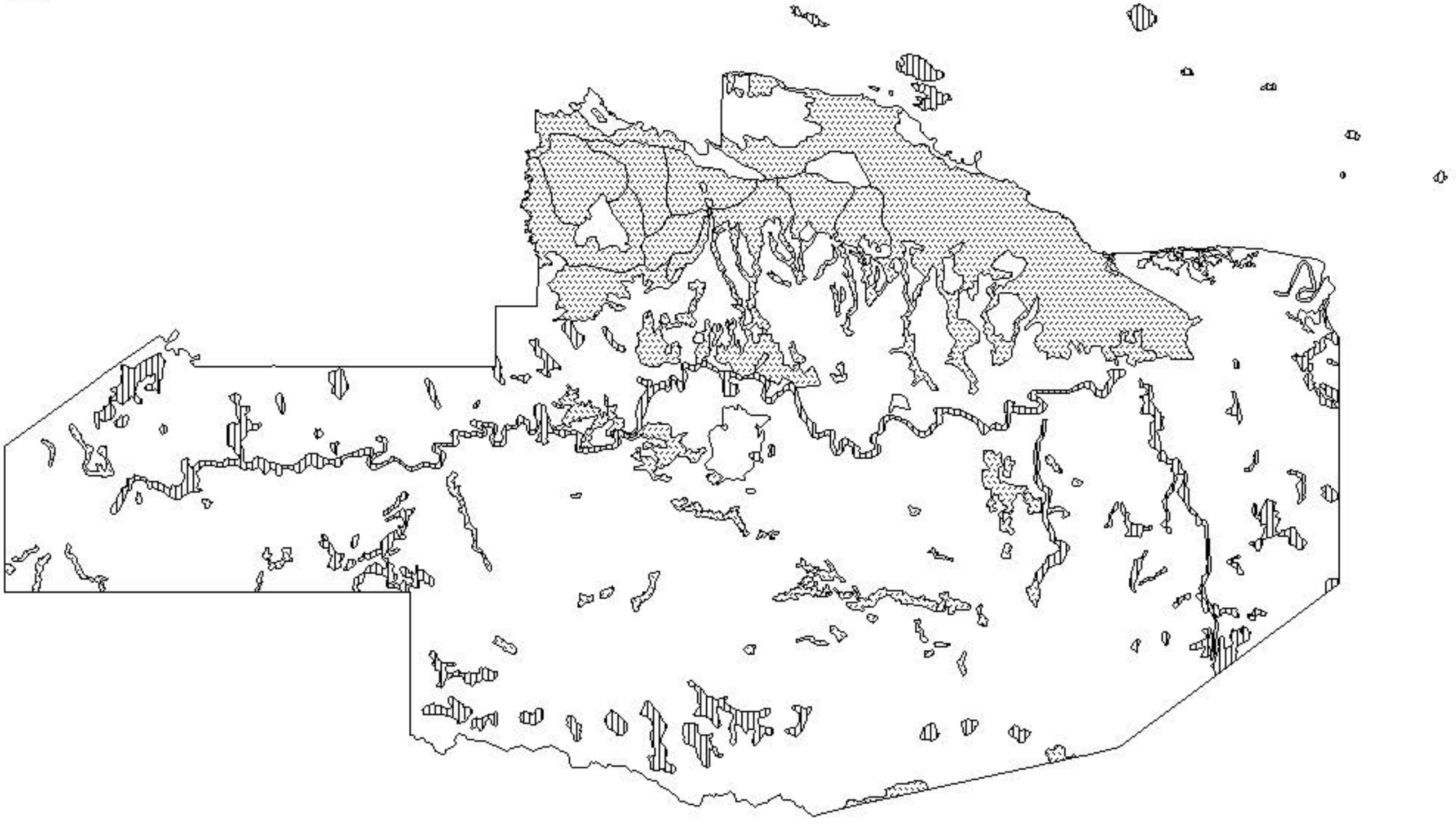
30 0 30 Kilometers

Mapping Agricultural Systems Project, Human Geography, ANU; PNG DAL; Geography, UPNG, 1999

Seasonality of main food crops

EAST SEPIK PROVINCE

No seasonal planting
Planted seasonally



30 0 30 Kilometers

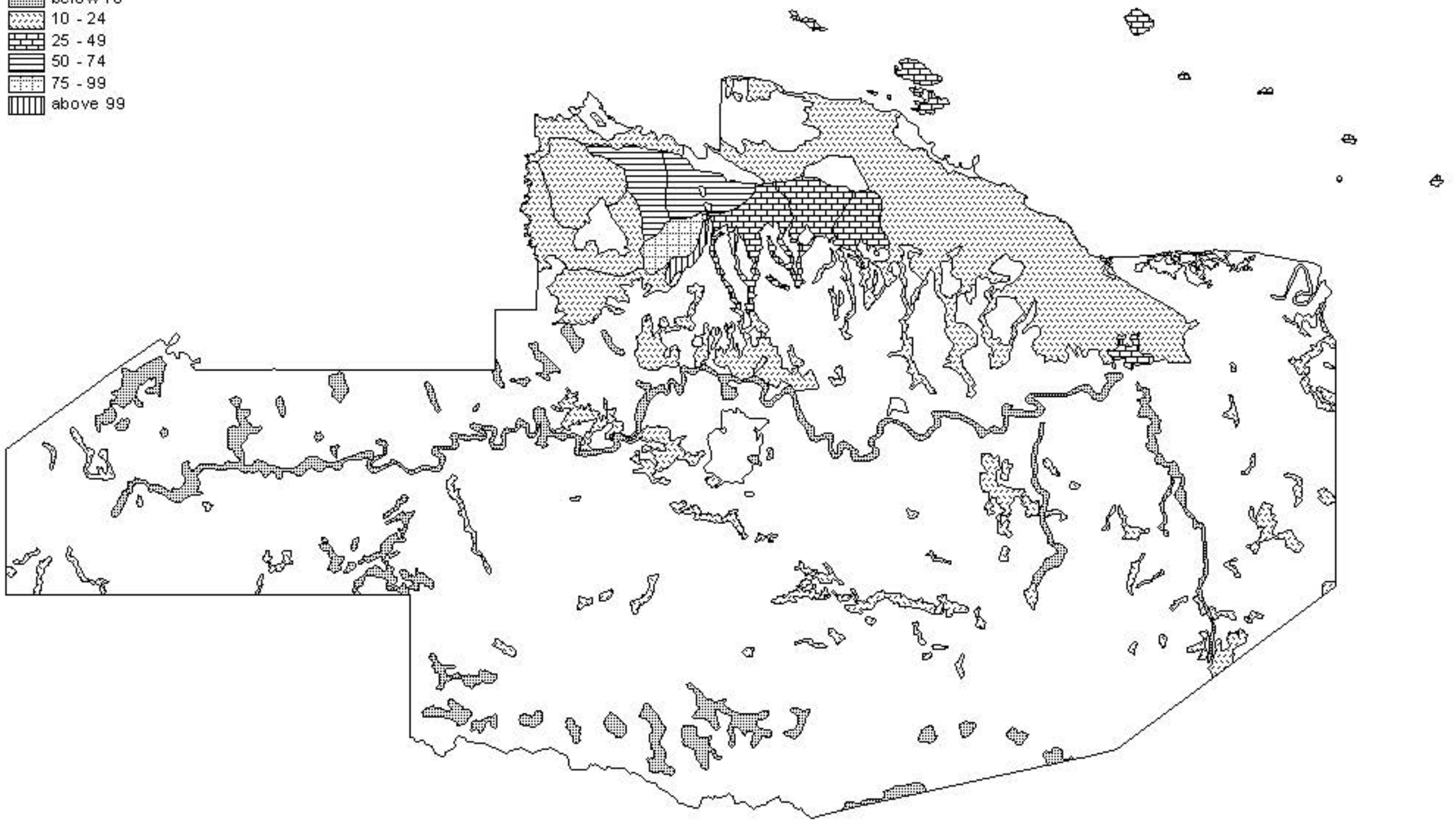
Mapping Agricultural Systems Project, Human Geography, ANU; PNG DAL; Geography, UPNG, 1999

EAST SEPIK PROVINCE

Population density

Persons per square kilometre

- below 10
- 10 - 24
- 25 - 49
- 50 - 74
- 75 - 99
- above 99



30 0 30 Kilometers

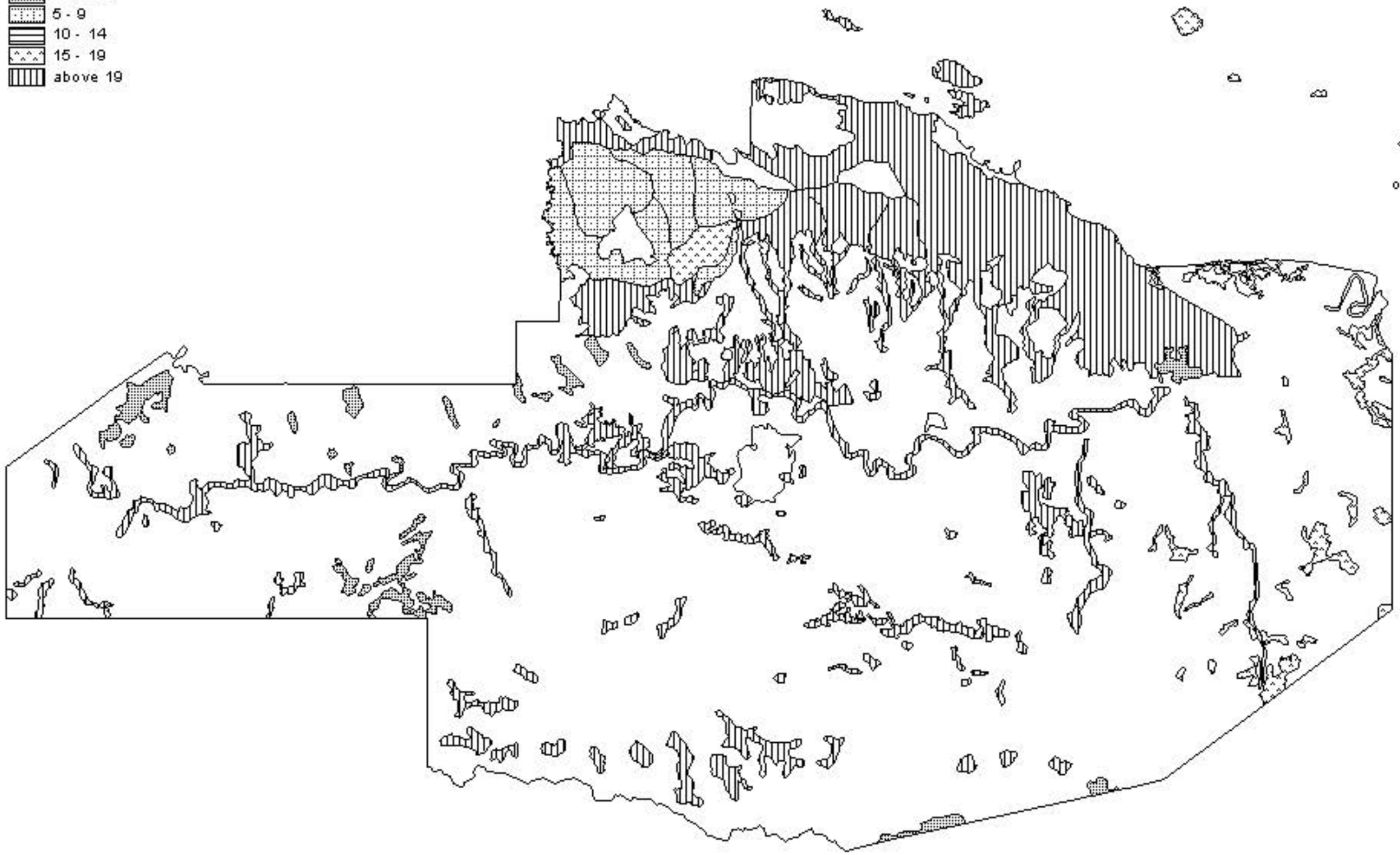
Mapping Agricultural Systems Project, Human Geography, ANU; PNG DAL; Geography, UPNG, 1999

Population absent

Percentage

- below 5
- 5 - 9
- 10 - 14
- 15 - 19
- above 19

EAST SEPIK PROVINCE



30 0 30 Kilometers

Mapping Agricultural Systems Project, Human Geography, ANU; PNG DAL; Geography, UPNG, 1999

5. AGRICULTURAL SYSTEMS: DATA LISTING BY CODES

The following tables list all of the information contained within the database in coded form. The codes are contained in Section 2, Database Structure, Definitions and Codes.

AGRICULTURAL SYSTEM DATA LISTING - CODES Province: 14 East Sepik

System	Sub sys	No. of subsys	Subsys extent	Same sys oth prov	Districts	Census Divisions
1401	1	1	4		1	13
1402	1	1	4	1507	1-2-3-4	01-02-03-04-05-06-07-08-11-12-17-18
1403	1	1	4		2-3	20-21-22
1404	1	1	4		2-3	21-22-23-24-25-26
1405	1	2	3		3	23-24-26-27-28-29-31-40-41
1405	2	2	1		3	23-24-26-27-28-29-31-40-41
1406	1	1	4		3-4	28-40-41-42
1407	1	1	4		3	31-34-40-41
1408	1	1	4		3	28-29-30-31-32-33
1409	1	1	4		3	33-34-38-39
1410	1	1	4		3	34-35-36-37-38-39
1411	1	1	4		3	34-36-37-40
1412	1	1	4		1	12
1413	1	2	3		1-4	06-07-08-09-46-49-54-55-56-57
1413	2	2	1		1-4	06-07-08-09-46-49-54-55-56-57
1414	1	1	4		2	16
1415	1	1	4		1-4	03-04-51
1416	1	1	4	0805	1	02-04-07
1417	1	1	4	1504	4	48-49
1418	1	2	3		1-4	06-44-45
1418	2	2	1		1-4	06-44-45
1419	1	1	4	1308	1	08-09-10-14
1420	1	1	4		2	16

KEY

Subsys	Subsystem
Same sys oth prov	Same system in other province

AGRICULTURAL SYSTEM DATA LISTING - CODES **Province: 14 East Sepik**

System	Sub sys	Area km^2	Population			Altitude range m		Slope	Fallows		
			Total	Abs	Den	Low	High		Veg	Sht	Per
1401	1	796	981	41	1	0	10	1	0	0	0
1402	1	4960	50318	23	10	0	800	5	5	0	3
1403	1	173	5773	23	33	100	300	3	4	0	2
1404	1	254	11170	25	44	150	300	5	3	0	2
1405	1	277	12147	21	44	100	300	5	1	0	3
1405	2	277	0	0	0	100	300	5	4	0	3
1406	1	66	8478	9	128	40	80	1	3	0	1
1407	1	157	14576	15	93	80	120	2	3	0	2
1408	1	256	17094	9	67	100	300	3	4	0	2
1409	1	252	12975	8	51	100	500	3	5	0	3
1410	1	367	8795	9	24	150	400	3	5	0	3
1411	1	419	8955	9	21	200	500	3	5	0	3
1412	1	54	2132	0	39	20	60	2	5	0	2
1413	1	5221	14464	24	3	5	50	2	5	0	2
1413	2	5221	0	0	0	5	50	2	2	0	2
1414	1	58	2521	16	43	0	400	5	4	0	2
1415	1	468	306	22	1	200	800	5	5	0	3
1416	1	63	0	0	0	800	1200	5	5	0	3
1417	1	3414	4399	5	1	50	150	2	5	0	3
1418	1	1188	5941	40	5	10	40	1	5	0	2
1418	2	0	0	40	0	10	40	1	2	0	2
1419	1	377	6957	16	18	10	200	2	5	0	3
1420	1	103	2878	31	28	0	500	5	4	0	3

KEY

Subsys Subsystem
Area km^2 Area of System

Population
Total Resident population 1980
Abs Absent population (%)
Den Population density (persons/km^2)

Fallows
Veg Type of Fallow vegetation
Sht Short fallows
Per Long fallow period

AGRICULTURAL SYSTEM DATA LISTING - CODES Province: 14 East Sepik

System	Sub sys	Staple crops			Narcotic crops
		Most import	Important	Present	
1401	1	00	06	06	0
1402	1	09	02-05-06-13	02-05-06-09-11-13-14-15	2-4-5
1403	1	13-15	02-06-09	02-05-06-09-11-13-14-15	2-4-5
1404	1	13-15	02-06-09	02-05-06-09-11-13-14-15	2-4-5
1405	1	02-15	06-13	02-05-06-09-13-14-15	2-4-5
1405	2	02-15	06-13	02-04-05-06-09-13-14-15	2-4-5
1406	1	15	09-06-13	02-05-06-09-11-13-15	2-4-5
1407	1	15	02-06-09-13	02-04-05-06-09-11-13-14-15	2-4-5
1408	1	15	02-06-09-13	02-04-05-06-09-11-13-14-15	2-4-5
1409	1	15	02-06-13	02-04-05-06-09-11-13-14-15	2-4-5
1410	1	15	02-06-13	02-05-06-09-11-13-14-15	2-4-5
1411	1	15	02-06-13	02-05-06-09-11-13-14-15	2-4-5
1412	1	00	02-05-09-11-15	02-05-09-11-13-14-15	2-4-5
1413	1	09	06	06-09-13-14-15	2-4-5
1413	2	09	06	06-09-13-14-15	2-4-5
1414	1	02	04-06-11-13	02-04-06-09-11-12-13-15	2-4-5
1415	1	09-13	11	02-04-09-11-13-15	2-4-5
1416	1	11	13	02-04-09-11-13-14	2-4-5
1417	1	09	00	02-09-11-13	2-4-5
1418	1	00	06	06-09-13-14-15	2-4-5
1418	2	00	06	06-09-13-14-15	2-4-5
1419	1	09	02-11-13	02-04-05-09-11-13-14-15	2-4-5
1420	1	09	02-05-06	02-05-06-09-11-13-15	2-4-5

KEY

Subsys Subsystem

AGRICULTURAL SYSTEM DATA LISTING - CODES Province: 14 East Sepik

System	Sub sys	Vegetable crops	Fruit crops	Nut crops
1401	1	00	00	00
1402	1	01-02-05-09-15-16-21-23-27	07-08-12-13-15-16	01-06-10
1403	1	01-02-05-09-16-23-27	07-08-13-15-16	01
1404	1	01-02-09-12-15-16-17-21-23-27	07-08-12-13-15-16	01-06
1405	1	01-02-09-16-19-23-27	07-08-12-13-15-16	01
1405	2	01-02-09-16-19-23-27	07-08-12-13-15-16	01
1406	1	01-02-05-09-16-19-23-27	07-08-12-13-15-16	01
1407	1	01-02-05-09-16-23-27	07-08-12-13-15-16	01
1408	1	01-02-05-09-15-16-19-21-23-27	07-08-12-13-15-16	01-06-10
1409	1	01-02-03-05-09-15-16-21-23-27	07-08-12-13-15-16	01-06-10
1410	1	01-02-03-05-09-10-15-16-21-23	07-08-12-13-15-16	01-06-10
1411	1	01-02-03-05-09-10-15-16-21-23	07-08-12-13-15-16	01-06-10
1412	1	01-02-09-10-15-16-17-19-23-27	05-07-12-13-15-23	01-04-10
1413	1	01-02-09-14-17-23	02-15-16-17	01
1413	2	01-02-09-14-17-23	02-15-16-17	01
1414	1	01-02-09-23	05-07-09-12-13-15-28-35	01-06-10-12-15
1415	1	01-02-10-13-16-17-20-21-23	08-12-15	01-14
1416	1	03-09-10-16-19-21	08-12-13-15	01-11
1417	1	01-02-09-10-11-14-16-17-21-23	08-12-15-16	01-04-11
1418	1	01-02-09-14-23	02-15-16-17	01
1418	2	01-02-09-14-23	02-15-16-17	01
1419	1	01-09-11-16-21-23-27	07-08-12-13-15-17	01-04
1420	1	01-02-09-15-23-27	05-07-09-12-13-15-16-23	01-06-07-12-15

KEY

Subsys Subsystem

AGRICULTURAL SYSTEM DATA LISTING - CODES **Province: 14 East Sepik**

System	Sub	Segregation		Crop	Gard types		Soil fertility maintenance techniques						
	sys	Gar	Crp	Seq	Mix	H'ld	Leg	Tre	Com	Man	Isl	Sil	Fer
1401	1	0	0	0	0	0	0	0	0	0	0	0	0
1402	1	1	1	0	0	1	0	0	0	0	0	0	0
1403	1	0	2	2	0	1	0	0	0	0	0	0	0
1404	1	0	1	2	0	1	0	0	0	0	0	0	0
1405	1	1	1	1	0	2	0	0	0	0	0	0	0
1405	2	1	1	1	0	2	0	0	0	0	0	0	0
1406	1	0	1	2	0	1	1	0	0	0	0	3	0
1407	1	1	1	1	0	1	0	0	0	0	0	0	0
1408	1	1	1	1	0	1	0	0	0	0	0	0	0
1409	1	0	1	1	0	1	0	0	0	0	0	0	0
1410	1	0	1	1	0	1	0	0	2	0	0	0	0
1411	1	0	1	1	0	1	0	0	0	0	0	0	0
1412	1	2	2	0	0	1	0	0	0	0	0	0	0
1413	1	1	3	0	0	1	0	0	0	0	0	3	0
1413	2	1	3	0	0	1	0	0	0	0	0	3	0
1414	1	0	1	1	0	0	0	0	0	0	0	0	0
1415	1	0	1	0	0	0	0	0	0	0	0	0	0
1416	1	0	2	1	0	2	0	0	0	0	0	0	0
1417	1	0	1	0	0	0	0	0	0	0	0	0	0
1418	1	1	3	0	0	1	0	0	0	0	0	3	0
1418	2	1	3	0	0	1	0	0	0	0	0	3	0
1419	1	0	0	1	0	1	0	0	0	0	0	1	0
1420	1	0	0	0	0	1	0	0	0	0	0	0	0

KEY

Subsys Subsystem

Segregation

Gar Garden

Crp Crop

Crop seq Crop sequences

Gard types **Garden types**

Mix Mixed vegetable gardens

H'ld Household gardens

Soil fertility maintenance techniques

Leg Legume rotation

Tre Planted tree fallow

Com Compost

Man Animal manure

Isl Island bed

Sil Silt from floods

Fer Inorganic fertilizer

AGRICULTURAL SYSTEM DATA LISTING - CODES **Province: 14 East Sepik**

System	Sub sys	Management techniques											
		Water		Soil						Fallow		Other	
		Irr	Drn	Pig	Till	Hol	Bar	Mul	Mec	Brn	Cut	Fen	Stk
1401	1	0	0	0	0	0	0	0	0	0	0	0	0
1402	1	0	0	0	0	1	1	0	0	3	0	1	1
1403	1	0	0	0	0	0	1	0	0	3	0	2	1
1404	1	0	0	0	0	0	2	0	0	3	0	3	1
1405	1	0	0	0	0	1	2	2	0	1	0	3	1
1405	2	0	0	0	0	1	0	0	0	3	0	3	1
1406	1	0	3	0	0	0	0	0	0	2	0	1	2
1407	1	0	2	0	0	1	1	0	0	3	0	1	3
1408	1	0	0	0	0	1	2	0	0	3	0	2	3
1409	1	0	0	0	0	1	1	0	0	3	0	0	3
1410	1	0	0	0	0	0	2	0	0	3	0	1	3
1411	1	0	0	0	0	0	1	0	0	3	0	1	3
1412	1	0	0	0	0	0	0	0	0	3	0	0	1
1413	1	0	0	0	0	0	0	0	0	3	0	1	1
1413	2	0	0	0	0	0	0	0	0	3	0	1	1
1414	1	0	0	0	0	0	0	0	0	1	0	3	0
1415	1	0	0	0	0	0	0	0	0	1	0	3	1
1416	1	0	0	0	0	0	1	0	0	3	0	3	1
1417	1	0	0	0	0	0	0	0	0	3	0	0	1
1418	1	0	0	0	0	0	0	0	0	3	0	1	1
1418	2	0	0	0	0	0	0	0	0	3	0	1	1
1419	1	0	0	0	0	0	0	0	0	3	0	1	1
1420	1	0	0	0	0	0	1	0	0	3	0	0	0

KEY

Subsys Subsystem

Management techniques

Water management

Irr Irrigation

Drn Drainage

Soil management

Pig Pigs placed in gardens

Till Tillage

Hol Deep holing (for yams)

Bar Soil retention

Mul Mulching

Mec Mechanized soil tillage

Fallow management

Brn Burning of cut vegetation

Cut Fallow cut onto crops

Other

Fen Fencing

Stk Staking of crops

AGRICULTURAL SYSTEM DATA LISTING - CODES **Province: 14 East Sepik**

System	Sub sys	Management techniques						Crop planting seasonality		Cropping intensity	R value
		Soil mounds				Garden beds					
		Vsm	Sm	Md	Lge	Sq	Lg	Maj	Min		
1401	1	0	0	0	0	0	0	0	0	0	0
1402	1	0	1	0	0	0	0	2	2	1	5
1403	1	0	0	0	0	0	0	2	2	2	17
1404	1	0	0	0	0	0	0	3	3	2	17
1405	1	0	1	0	0	0	0	3	3	2	9
1405	2	0	1	0	0	0	0	3	3	2	9
1406	1	0	0	2	0	0	0	3	3	3	57
1407	1	0	1	0	0	0	0	3	3	2	17
1408	1	0	0	0	0	0	0	3	3	2	17
1409	1	0	0	0	0	0	0	3	3	1	5
1410	1	0	0	0	0	0	0	3	3	2	9
1411	1	0	0	0	0	0	0	3	3	2	9
1412	1	0	1	0	0	0	0	2	2	1	9
1413	1	0	1	0	0	0	0	0	3	1	9
1413	2	0	1	0	0	0	0	0	3	2	17
1414	1	0	1	0	0	0	0	1	2	1	9
1415	1	0	0	0	0	0	0	0	0	1	5
1416	1	0	1	0	0	0	0	2	3	1	5
1417	1	0	1	0	0	0	0	0	0	1	5
1418	1	0	1	0	0	0	0	0	3	1	9
1418	2	0	1	0	0	0	0	0	3	2	17
1419	1	0	1	0	0	0	0	1	1	1	5
1420	1	0	1	0	0	0	0	0	1	1	5

KEY

Subsys Subsystem

Management techniques

Soil mounds

Vsm Very small
Sm Small
Md Medium
Lge Large

Garden beds

Sq Square
Lg Long

Crop planting seasonality

Maj Dominant
Min Other crops

AGRICULTURAL SYSTEM DATA LISTING - CODES Province: 14 East Sepik

System	Sub	Cash income sources											
	sys	An	Bet	Crd	Cat	Chi	Coc	Cnt	CfA	CfR	Crc	Fwd	Fsh
1401	1	0	0	0	0	0	0	0	0	0	0	0	2
1402	1	0	0	0	0	0	1	0	0	1	0	0	0
1403	1	0	0	0	0	0	1	0	0	1	0	0	0
1404	1	0	0	0	0	0	2	0	0	0	0	0	0
1405	1	0	0	0	0	0	1	0	0	1	0	0	0
1405	2	0	0	0	0	0	1	0	0	1	0	0	0
1406	1	0	0	0	0	0	1	0	0	1	0	0	0
1407	1	0	0	0	0	0	1	0	0	1	0	0	0
1408	1	0	0	0	0	0	2	0	0	1	0	1	0
1409	1	0	0	0	0	0	2	0	0	2	0	0	0
1410	1	0	0	0	0	0	2	0	0	2	0	0	0
1411	1	0	0	0	0	0	1	0	0	1	0	0	0
1412	1	0	2	0	0	0	2	0	0	0	0	0	0
1413	1	0	2	0	0	0	1	0	0	0	1	0	1
1413	2	0	2	0	0	0	0	0	0	0	1	0	1
1414	1	0	0	0	0	0	0	1	0	0	0	0	1
1415	1	1	0	0	0	0	0	0	0	0	0	0	0
1416	1	1	0	0	0	0	0	0	0	0	0	0	0
1417	1	0	0	0	0	0	0	0	0	0	1	0	0
1418	1	0	1	0	0	0	0	0	0	0	1	0	2
1418	2	0	1	0	0	0	0	0	0	0	1	0	2
1419	1	0	1	0	0	0	0	0	0	0	0	0	1
1420	1	0	0	0	0	0	0	0	0	0	0	0	1

KEY

Subsys Subsystem

Cash Income Sources

An	Animal skins	Chi	Chillie	CfR	Coffee Robusta
Bet	Betel nut	Coc	Cocoa	Crc	Crocodile
Crd	Cardamom	Cnt	Coconut	Fwd	Firewood
Cat	Cattle	CfA	Coffee Arabica	Fsh	Fish

AGRICULTURAL SYSTEM DATA LISTING - CODES Province: 14 East Sepik

System	Sub	Cash income sources										
	sys	Fod	Op	Pot	Pyr	Ric	Rub	Shp	Tea	Tob	Ot1	Ot2
1401	1	0	0	0	0	0	0	0	0	0	1	0
1402	1	1	0	0	0	0	0	0	0	1	0	0
1403	1	1	0	0	0	0	0	0	0	0	0	0
1404	1	1	0	0	0	0	0	0	0	1	1	0
1405	1	1	0	0	0	0	0	0	0	0	0	0
1405	2	1	0	0	0	0	0	0	0	0	0	0
1406	1	2	0	0	0	0	0	0	0	1	0	0
1407	1	1	0	0	0	0	0	0	0	0	0	0
1408	1	1	0	0	0	0	0	0	0	0	0	0
1409	1	1	0	0	0	0	0	0	0	0	0	0
1410	1	1	0	0	0	0	0	0	0	0	0	0
1411	1	1	0	0	0	0	0	0	0	0	0	0
1412	1	2	0	0	0	0	2	0	0	0	0	0
1413	1	0	0	0	0	0	0	0	0	1	0	0
1413	2	0	0	0	0	0	0	0	0	1	0	0
1414	1	2	0	0	0	0	0	0	0	0	0	0
1415	1	0	0	0	0	0	0	0	0	0	0	0
1416	1	0	0	0	0	0	0	0	0	0	0	0
1417	1	0	0	0	0	0	0	0	0	1	0	0
1418	1	0	0	0	0	0	0	0	0	1	0	0
1418	2	0	0	0	0	0	0	0	0	1	0	0
1419	1	1	0	0	0	0	0	0	0	0	0	0
1420	1	1	0	0	0	0	0	0	0	1	0	0

KEY

Subsys Subsystem

Cash Income Sources

Fod	Fresh food	Ric	Rice	Tob	Tobacco
Op	Oil Palm	Rub	Rubber	Ot1	Other 1
Pot	Potato	Shp	Sheep	Ot2	Other 2
Pyr	Pyrethrum	Tea	Tea		

AGRICULTURAL SYSTEM DATA LISTING - CODES **Province: 14 East Sepik**

System	Sub sys	Survey 1				Survey 2				Survey 3			
		Date mth yr	Period yrs	Sv tp	Sv in	Date mth yr	Period yrs	Sv tp	Sv in	Date mth yr	Period yrs	Sv tp	Sv in
1401	1	- -	-	-		- -	-	-		- -	-	-	
1402	1	05 82	-	4	RMB	06 91	-	3	RMB	06 91	-	4	A/H
1403	1	07 91	-	3	BJA	- -	-	-		- -	-	-	
1404	1	07 91	-	2	BJA	- -	-	-		- -	-	-	
1405	1	07 91	-	2	BJA	- -	-	-		- -	-	-	
1405	2	- -	-	-		- -	-	-		- -	-	-	
1406	1	10 74	-	3	RMB	09 86	-	4	A/H	07 91	-	2	BJA
1407	1	09 86	-	4	A/H	07 91	-	2	BJA	- -	-	-	
1408	1	07 91	-	3	A/H	- -	-	-		- -	-	-	
1409	1	07 91	-	3	RLH	- -	-	-		- -	-	-	
1410	1	- -	1971-79	5	BJA	07 91	-	3	A/H	- -	-	-	
1411	1	- -	1971-79	5	BJA	07 91	-	3	BJA	- -	-	-	
1412	1	04 89	-	4	RMB	- -	-	-		- -	-	-	
1413	1	07 91	-	4	RMB	- -	-	-		- -	-	-	
1413	2	07 91	-	4	RMB	- -	-	-		- -	-	-	
1414	1	- -	-	-		- -	-	-		- -	-	-	
1415	1	- -	-	-		- -	-	-		- -	-	-	
1416	1	11 80	-	1	RMB	11 90	-	1	ABK	- -	-	-	
1417	1	06 91	-	3	RMB	- -	-	-		- -	-	-	
1418	1	07 91	-	4	RMB	- -	-	-		- -	-	-	
1418	2	- -	-	-		- -	-	-		- -	-	-	
1419	1	07 91	-	2	BJA	- -	-	-		- -	-	-	
1420	1	10 74	-	2	RMB	06 91	-	2	A/H	- -	-	-	

KEY

		A/H	B. J. Allen/R.L. Hide
Subsys	Subsystem	ABK	B. J. Allen/C. Ballard/D. Kendasan
Sv tp	Survey type	BJA	B. J. Allen
Sv in	Surveyor initials	RLH	R. L. Hide
		RMB	R. M. Bourke

6. LISTINGS OF RURAL VILLAGES (CENSUS UNITS) INDEXED TO AGRICULTURAL SYSTEMS

All rural village Census Units in the 1980 National Population Census which are locatable on either the 1980 or 1990 Census Maps are assigned to an Agricultural System. The village name, National Population Census identification codes (Province, District, Census Division, Census Unit), population and Agricultural System number for each village is held as a single record in a population database (AGPOP). District and Census Division codes for this Province are listed in Appendix A.2.

This section provides three different listings from that database of rural villages indexed by Agricultural Systems:

6.1 Rural villages listed in census order (District, Census Division).

6.2 Rural villages listed in alphabetical order.

6.3 Rural villages listed by Agricultural System number (alphabetically within agricultural systems) with PNGRIS Resource Mapping Unit (RMU) numbers.

Abbreviations used are:

Dist	District name and number (see Appendix A.2)
Div	Census Division number (see Appendix A.2)
Population	1980 National Population Census count of population in a Unit
RMU	Provincial Resource Mapping Unit number (PNGRIS)
System	Agricultural System number
Village	Census Unit name
Unit	Census Unit number

6.1 RURAL VILLAGES WITH AGRICULTURAL SYSTEM NUMBERS IN CENSUS ORDER

Province: 14 East Sepik

	Village	Population	System
DISTRICT	1 Angoram		
Division	1 Karawari		
1	AMBONWARI	304	1402
2	IMANMERI	348	1402
3	KAIWARIA	159	1402
4	KANSIMEI	114	1402
5	KONMEI	121	1402
6	KUNDIMAN	218	1402
7	KUNGRIAMBUN	114	1402
8	MANJAMAI	87	1402
9	MASANDENAI	118	1402
10	MEIKEROBI	109	1402
Division	2 Alanblak		
1	AMONGABI	282	1402
2	BARAPISIM	83	1402
3	CHIMBUT	106	1402
4	DANYIG	41	1402
5	INIAI	49	1402
6	LATOMA	74	1402
7	MARAMBA	67	1402
8	SIKAIUM	72	1402
9	TANGAMBIT	71	1402
11	YENITABAK	68	1402
Division	3 Korosameri		
1	ANGANAMEI	154	1402
2	BISORIO	92	1415
3	BUGIAUI	32	1402
4	BUGUMUTE	51	1402
5	INARO	56	1402
6	KABRIMAN	188	1402
7	KANINGRA	190	1402
8	KRAIMBIT	268	1402
9	KUVENMAS	276	1402
10	MARIANMEI	100	1402
11	MESKA	203	1402
13	NUMERI	107	1402
14	SANGRIMAN	313	1402
15	SEVENBUK	81	1402
16	TARAKAI	95	1402
17	TUNGAMBIT	128	1402
18	YAMONDINDEI	170	1402
19	YESIMBIT	96	1402
Division	4 Arafundi		
1	ANDAMBIT	36	1415
2	AUININ	117	1402
3	IMBOIN	57	1402
4	MEAKAMBUT	36	1415
5	TUNGUM	97	1402
6	WABLIMAS	53	1402
7	YAMANDIM	132	1402
8	YIMAS	215	1402
Division	5 Kwongai		
1	CHIMBIAN	122	1402
2	JIGINUMBUT	56	1402
3	KAMANGAUI	88	1402
4	KINGAUI	45	1402
5	KOIWAT	281	1402
6	MALIMBO	63	1402
7	MANGANJANGUT	92	1402
8	NAMUT	78	1402
9	PIAMBIT	66	1402
10	SAUI	44	1402
11	SERABA	72	1402
12	SIMANGAUI	37	1402
13	SUIMBO	82	1402
14	TIMBOLI	107	1402
15	WARIGUM	104	1402
16	YINDIGUM	141	1402
Division	6 Middle Sepik		
1	ANGORAM	242	1413
2	ANGRIMAN	154	1418
3	KAMBROK	95	1402
4	KAMBRINDO	348	1413
5	KAMINIMBIT	416	1418
6	KANDUANAM 1	210	1413
7	KANDUANAM 2	145	1413
8	KARARAU	244	1418
9	KRINJAMBI	180	1413
10	MAGENDO 1	172	1413
11	MAGENDO 2	59	1413
12	MAGENDO 3 AND 4	206	1413
13	MINDIMBIT	334	1418
14	MOIM	333	1413
15	MUNDOMUNDO	421	1402
16	PINANG	327	1413
17	TAMBALI	212	1413
18	TAMBANUM	723	1413
19	TIMUNKE	626	1418
20	WOMBUN	221	1413
21	YUERIMAN	132	1413
Division	7 Yuat River		
1	AGRUMARA	144	1413
2	AKURAN	258	1413
3	ANDAFUGAN	265	1402
4	ANDUA	143	1413
5	ARAINING	88	1402
6	ARANGUNAM	164	1413
7	ASANGAMUT	267	1402
8	AVANGUMBA	82	1413
9	BIWAT	412	1413
10	BRANDA	201	1413
11	BUN	248	1413
12	GHANGRIWA	479	1402
13	DIMIRI	195	1402
14	DOWANING	133	1402
15	EREM	95	1402
16	GIRING	97	1413
17	KAMBAIBOT	217	1402
18	KARINYIG	29	1402
19	KAUSIMBI	79	1413
20	KINAKATEN	273	1413
21	KUNDIMA	369	1413
22	MARAMBA	660	1402
23	MARAWAT	182	1402
24	MENSUAT	214	1402
25	MUNDAMBA	72	1402

6.1 RURAL VILLAGES WITH AGRICULTURAL SYSTEM NUMBERS IN CENSUS ORDER

Province: 14 East Sepik

	Village	Population	System
26	MADVERI	189	1402
27	PUNDUGWA	86	1402
28	SAPALU	121	1413
29	SIPISIPI	162	1413
30	YAMINBOT	75	1402
31	YAUL	249	1402
Division	8 Grass Country		
1	BOBATEN	327	1419
2	BOBTEN	358	1413
3	BUTEN	215	1419
4	CHUIMONDO	242	1413
5	KAIMBA	60	1402
6	KAMBARAMBA	1181	1413
7	KAMBOT	593	1413
8	KAMBUKU	207	1419
9	KEKTEN	98	1402
10	KOROGOPA	462	1413
11	LANGAM	260	1402
12	LOL	120	1419
13	MANU	111	1419
14	MUNYITEN	109	1419
15	PAMBAN	151	1419
16	PATAKA	138	1419
17	PANYATEN	191	1419
18	PUSHYTEN	187	1419
19	RATEN	333	1419
20	SIMBIRI	93	1419
21	WOM	362	1402
22	WORI	39	1419
23	YAMEN	356	1419
Division	9 Banaro		
1	ANGANG	125	1413
2	ANGISI	216	1419
3	ANJO	51	1419
4	BUGARAM	130	1413
5	KEVIM	174	1419
6	KOMTING	88	1419
7	KONGRUM	77	1419
8	LEMBUN	121	1419
9	MINIAS	84	1419
10	MOLI	56	1419
11	MONGITOK	124	1419
13	MONGUM	54	1419
15	RONGWIK	161	1419
16	SORI	134	1419
17	TAMO AND BUTA	289	1419
18	TOGO	163	1419
20	YAR	125	1413
Division	10 Porapora		
1	ADJORA	116	1419
2	AGRANT	158	1419
3	AKAIAN	113	1419
4	ARAMUNDI	76	1419
5	ARANGO	83	1419
6	DUWAR	74	1419
7	ERONEN	40	1419
8	JANGIT	83	1419
9	JETA	145	1419
10	KIROP	56	1419
11	KITCHIKAN	36	1419
12	MANMONG	192	1419
13	MURKEN	148	1419
14	NAURUK	76	1419
15	OGOMANIA	125	1419
16	OMBOS	123	1419
17	OREMAI	75	1419
18	PALIPAN	30	1419
19	PANKIN	115	1419
20	PINAM	133	1419
21	POKORAN	111	1419
22	WAMA	37	1419
Division	11 Lower Sepik		
1	BIEN	311	1402
2	IMBUANDO	282	1402
3	KOPAR	100	1402
4	MARBUK	65	1402
5	SINGARIN	51	1402
Division	12 Marienberg Hills		
1	ARIAPAN	27	1402
2	BOIG	121	1402
3	BONAM	31	1402
4	GAVIEN	52	1402
5	KASIMAN	217	1402
6	KAUP	386	1402
7	KIS	236	1402
8	MAMBEL	245	1402
9	MANGEN	171	1402
10	MANSEP	151	1402
11	MASON	99	1402
12	SUK	48	1402
13	WASKURIN	114	1402
502	GAVIEN RESETTLEMENT	2132	1412
Division	13 Murik Lakes		
1	ARAMUT	124	1401
2	DARAPAP	244	1401
3	JANGIMUT	156	1401
4	KARAU	111	1401
5	MENDAM	233	1401
6	WAGAMUT	113	1401
Division	14 East Coast		
1	GAPUN	96	1419
2	SENAE	134	1419
3	WATAM	151	1419
4	WONGAN	62	1419
DISTRICT	2 Wewak		
Division	16 Wewak Islands		
1	BUKOI	191	1414
2	BAM	151	1420
3	BAM ISLAND	675	1414
4	BLUP BLUP ISLAND	378	1414
5	KADOVAR ISLAND	291	1414
6	KOIL ISLAND	400	1414
7	KORAGUR	267	1420
8	YAWIK	251	1420

6.1 RURAL VILLAGES WITH AGRICULTURAL SYSTEM NUMBERS IN CENSUS ORDER

Province: 14 East Sepik

	Village	Population	System
9	MARAI	49	1420
10	MUSHU 1	260	1420
11	YUWUN	91	1420
12	RUMLAL	113	1420
13	SHAGUR	304	1420
14	SHAM	101	1420
15	SIBABARU	100	1420
17	SIRASIN	115	1420
18	SMALL MUSCHU	102	1420
19	SUP	143	1420
20	SURAI	76	1420
21	TAKUR	178	1414
22	TARAWAI ISLAND	208	1420
23	UNIWARO	332	1414
24	WALIS ISLAND	547	1420
25	WEI ISLAND	76	1414
Division	17 But-Boiken		
1	AROHEMI	120	1402
2	BALAM	175	1402
3	BANAK	52	1402
4	BOGAMETAI	133	1402
5	BOIKIN	176	1402
6	BUT	124	1402
7	DAGUA	224	1402
8	JAPUAIN	346	1402
9	KAMBUNG	127	1402
10	KARASAU ISLAND	281	1402
11	KARAWOP	202	1402
12	KAUK	240	1402
13	KOANUMBO	132	1402
14	KOFI	114	1402
15	KOTAI	104	1402
16	KUMINIM	142	1402
17	KURUPIE	85	1402
18	KWANGEN	77	1402
19	KUMUNDU	26	1402
20	LOWAN	502	1402
21	MAGOFIN	389	1402
22	MAJUOM	55	1402
23	MISUAM	160	1402
24	NUMBOTUI	149	1402
25	NUMIEGUN	107	1402
26	NUMIENGWAI	104	1402
27	PAROM	367	1402
28	PERRINGGA	130	1402
29	PENJEN	127	1402
30	RAINIMBO	224	1402
31	SURUMBA	469	1402
32	SMAIN	233	1402
33	SOWAN	437	1402
34	URIP	288	1402
35	WALANDUOM	81	1402
36	WAUTOGIK	124	1402
37	WOGINARA 1	490	1402
38	WOGINARA 2	241	1402
39	YUO ISLAND	504	1402
Division	18 Wewak Local		
1	BUNGARIPMA	188	1402
2	HAMBERAURI	35	1402
3	KOIKEN	135	1402
5	KREMENDING	56	1402
6	KUMBAGORA	253	1402
8	MARIK	125	1402
9	MAURE	149	1402
12	PALIAMA	203	1402
13	PASSAM	355	1402
16	SIMBLANGU	50	1402
17	SUWAMBUKAU	136	1402
20	YARAPOS	75	1402
Division	19 Turubu		
1	BUNGAIN	242	1402
2	DAGAWAT	185	1402
3	FOROK 1	152	1402
4	FOROK 2	273	1402
5	HAREGIN	133	1402
6	HARENG	94	1402
7	KAIEP	155	1402
8	KAMASAU	137	1402
9	KANDAI	80	1402
10	KENYARI	79	1402
11	MAMBE	127	1402
12	MANDI	233	1402
13	MUNDUNGAI	105	1402
14	MUNJIN	47	1402
15	MUSANGUN	93	1402
16	NU'MAREB	178	1402
17	PALPUL	158	1402
18	PATANDA	151	1402
19	SAMAP	160	1402
20	SIGAN-SIL	107	1402
22	SINIMBLAI	229	1402
23	SUANUM	48	1402
24	TAUL	83	1402
25	TIMERU	118	1402
26	TRING	123	1402
27	TURUBU	111	1402
28	WAIBAB	96	1402
29	WANDOMI	100	1402
30	WAU	83	1402
31	WAWAT 1	142	1402
32	WAWAT 2	119	1402
33	YAMBEN	204	1402
34	YAUGIBA	132	1402
35	YIBAB	86	1402
Division	20 Wewak Inland		
1	ANDARANDAGUM	103	1402
2	BALMO	95	1402
3	BARARAT	196	1402
4	BIMA	242	1402
5	CHUINIMBU	72	1402
6	HANDARA	265	1403
7	HANYAK 1	109	1402
8	HANYAK 2	195	1402
9	HAPMOGAM	180	1403
10	JAPARAKA NO.1	210	1402
11	JAPARAKA NO.2	215	1402

6.1 RURAL VILLAGES WITH AGRICULTURAL SYSTEM NUMBERS IN CENSUS ORDER

Province: 14 East Sepik

	Village	Population	System
12	KAMBARRAGA	118	1402
13	KOWIRO	153	1402
14	KUSANUN	146	1402
15	KWAIAKUM	167	1402
16	KWALIANGWA	91	1402
17	KWOIRUO	194	1403
18	MAPERINGA	147	1402
19	MUNIWARA	162	1402
20	NANGUMARUM	257	1402
21	NIUMINDOGUM	457	1403
22	NUMINDOBUM	95	1402
23	NUMOIKUM	193	1402
24	NUNGORI	221	1403
25	PANPANIA	222	1402
26	PAPARAM	368	1402
27	PARUWA	101	1402
28	PERINGA	116	1402
29	POROMBI	273	1402
30	PUARA	121	1403
31	RABIAWA	265	1402
32	RABUNDOGUM	300	1402
33	RINDAGUM	127	1402
34	SAMOWIA	87	1402
35	SASSOYA	203	1402
36	SOTANGAI	89	1402
37	SUANDOGUM	308	1402
38	TANGORI 1	162	1402
39	TANGORI 2	121	1402
40	TIMBUNANGUA	169	1402
41	TOANUMBU	448	1403
42	URAGEMBI	275	1402
43	WAIRAMAN	77	1402
44	WAMANGU	146	1402
45	WAMBE	183	1402
46	WANIGAKUM	117	1402
47	YARI / NUNGAWA	99	1402
48	YUMUNGU	260	1402
Division	21 East Yangoru		
1	ABAUIA	347	1403
2	HARINGEN	123	1403
3	HARUWA	279	1403
4	HAUBUGWE	413	1403
5	KARAGORA	61	1404
6	KININIMBOGU	152	1404
7	KININYAN	161	1403
8	MUNDJIHARANJI	530	1403
9	MUSUWAGEN	270	1403
10	NEIMO	235	1403
11	NIAGOMBI	233	1403
12	NIABOGU	298	1404
13	NYAKANDOGUN	415	1403
14	SASANAMBOGU	156	1404
15	SENGORO	94	1403
16	SUONDO	125	1403
17	WAMOIN	233	1403
18	WARIEMBA	155	1403
19	YEKIMBOLYE 1	183	1404
DISTRICT	3 Maprik		
Division	22 Yangoru		
1	AMBASOLI	103	1404
2	AMBUKANJA	266	1404
3	AMBUKWON	153	1404
4	BUKIENDUAN	148	1404
5	HAGERAPA	119	1404
6	HARINGER	101	1404
7	HARIPMOR	324	1402
8	INAGOMBI	100	1403
9	KAMBELYI	179	1404
10	KARAPIA	165	1404
11	KAIRIVU	299	1404
12	KUVARI	160	1404
13	KWAGAMA	293	1404
14	KWAGWI	250	1404
15	KWORABRI	306	1404
16	KWOWI	97	1404
17	MAMBUK	267	1404
18	MARABANJA	346	1404
19	MARIGEI	308	1404
20	NUMBURUON	199	1404
21	NUMIASOLI	140	1404
22	PACHAN	137	1404
23	PAIMARU	247	1404
24	PARINA	151	1404
25	SAINA	140	1404
26	SAUSENDUAN	137	1404
27	SENGRI	119	1404
28	SIMA	255	1404
29	SIMBOMIE	155	1404
30	SINIANGU	152	1404
31	SOLI	390	1404
32	WAMAINA	250	1404
33	WARAGUMBE	133	1404
34	WARAMURU	306	1404
35	YEKIMBOLYE 2	174	1403
Division	23 Sepik		
1	KAMANJAN	118	1405
2	KAMARAGU	105	1402
3	KINIAMBU	328	1402
4	KUMBIWINGEI	147	1404
5	KWORO	214	1404
6	MAKAMBU	216	1404
7	PANGEIMBIT	157	1402
8	WITUPE 1	253	1405
9	WITUPE 2	261	1405
Division	24 Nindepolye		
1	AGINGUN	96	1405
2	BALMO	245	1405
3	BOIM	298	1404
4	GWINYINGI	156	1405
5	HOLIK	298	1404
6	NAMBARI 1	195	1404
7	NAMBARI 2	78	1405
8	NINDEPOLYE	238	1404
9	SARA	218	1404
10	YARABOIM	137	1404

6.1 RURAL VILLAGES WITH AGRICULTURAL SYSTEM NUMBERS IN CENSUS ORDER

Province: 14 East Sepik

	Village	Population	System
Division	25 Kumun		
1	BUKINARA	128	1404
2	HIMBURU	165	1404
3	KUMBUHUN	420	1404
4	KUMUN	189	1404
5	KWAIAN	277	1404
6	WINDJUAN	165	1404
Division	26 Kaboibus		
1	AHIGILIUM	97	1405
2	ALISU	188	1405
3	BELAGEL	134	1404
4	BONAHOITAM	236	1405
5	BUBUAMO	135	1405
6	DUNIGI	266	1404
7	ILIPAIEM	252	1405
8	KABOIBUS	335	1405
9	KAIRIRU	144	1404
10	KURAGAMON	226	1405
11	MALAPAIEM	218	1405
12	NIMBIHU	205	1405
13	ULUNKOHOITU	81	1405
14	YABOMINU	242	1405
Division	27 Wingei		
1	BEPANDU	372	1405
2	BUGITU	236	1405
3	MAMBAURU	290	1405
4	SUANUMBU	181	1405
5	WAGUPMA	159	1405
6	WALANGAI	73	1405
7	WINGEI 1	207	1405
8	WINGEI 2	371	1405
Division	28 Tamaui		
1	BENGARAGUM	329	1405
2	DUMBIT 1	234	1406
3	DUMBIT 2	252	1406
4	KOMBENOBO	357	1405
5	KUSANABU	406	1405
6	KWARENGU	368	1405
7	KWIMBU 1	421	1406
8	KWIMBU 2	309	1406
9	MALBA 1	306	1408
10	MALBA 2	267	1408
11	NARAMGO	291	1405
12	SAGISIK	432	1405
13	SUAMBUKUM 1	205	1405
14	SUAMBUKUM 2	181	1405
15	WAIGAKUM 1	392	1408
16	WAIGAKUM 2	401	1405
17	WAIGAKUM 3	338	1405
18	YANGISAGU	279	1405
19	YAUWANJUNGEI 1	341	1405
20	YAUWANJUNGEI 2	160	1405
21	YENGIO	344	1405
Division	29 Yamil		
1	ANUNYALIN	188	1405
2	AUNYALIN 2	258	1405
3	CHAULAGUNEM	83	1408
4	GWALIP 1	179	1405
5	GWALIP 2	144	1405
6	MEDAMEN	159	1402
7	NAGIPAEM	215	1402
8	NAMBENOGWEN	156	1405
9	ULUPU	288	1405
10	YALAHIN	122	1405
11	YAMIL 1	212	1408
12	YAMIL 2	271	1408
13	YAMIL 3	78	1408
Division	30 Maprik		
1	BAINYIK	236	1408
2	BALOGWIL	195	1408
3	BARANGA	81	1408
4	CHERAGUM	139	1408
5	IMBIA	116	1408
6	JAME	308	1408
7	KALABU 1	597	1408
8	KALABU 2	308	1408
9	KINBANGWA	327	1408
10	KUMINIBIS 1	676	1408
11	KUMINIBIS 2	490	1408
12	LONEIM	192	1408
13	MAPRIK 1	332	1408
14	MAPRIK 2	256	1408
15	NELIGUM	518	1408
16	YAMIKUM	472	1408
Division	31 Wora		
1	APERINGA WANGINGA	379	1408
2	AUPIK 1	319	1408
3	AUPIK 2	280	1408
4	GAINIGUM	282	1408
5	GWELIGUM 1	393	1408
6	GWELIGUM 2	189	1408
7	LEHINGA 1	340	1408
8	LEHINGA 2	327	1408
9	NELIGUM	323	1408
10	NINDIKO	128	1408
11	NINGILIMBI 1	378	1407
12	NINGILIMBI 2	425	1407
13	NUMAKUM	173	1407
14	SAMGIK	197	1408
15	SERAGAKIM 1	256	1407
16	SERAGAKIM 2	245	1407
17	SERANDU	142	1407
18	WORA	427	1405
Division	32 Mamblep		
1	APANGAI 1	267	1408
2	APANGAI 2	338	1408
3	BONGIORA	275	1408
4	CHIGINAMBU	332	1408
5	GWOINGWOIN	166	1408
6	KUKWAL	251	1408
7	KULELIGUM	230	1408
8	KULUNGE	269	1408
9	MAGAPITA	126	1408
10	MAPUTMA	317	1408
11	MILAK	202	1408
12	SAULIK	244	1408

6.1 RURAL VILLAGES WITH AGRICULTURAL SYSTEM NUMBERS IN CENSUS ORDER

Province: 14 East Sepik

	Village	Population	System
13	WAIKIM	195	1408
14	WAMBAK	234	1408
15	YAMELIKUM	143	1408
Division	33 Albiges-Bumbita		
1	AMAHOP	413	1408
2	AMAN	190	1409
3	AMI	216	1408
4	AUNYELIM	221	1408
5	BUTIKA	220	1408
6	DAHABIGA	277	1408
7	HIGIABIN	121	1408
8	MISANGAI	321	1408
9	NILU	277	1408
10	NINGALIMBI	215	1408
11	NUNGALIM	511	1408
12	SAHALI	282	1408
13	SUPA	157	1408
14	SUPARI	265	1409
15	WALAHUTA	265	1408
16	WAMSAK 1	408	1409
17	WAMSAK 2	289	1409
Division	34 Muhiang-Bumbita		
1	ALBINAMA 1	363	1409
2	ALBINAMA 2	214	1409
3	ALBINAMA 3	294	1409
4	ALUWINGEI	128	1409
5	ILAHITA 5	157	1409
6	BALANGABADANGAL	323	1409
7	BALIF	515	1409
8	BOMBITA	177	1409
9	BONAHOI	357	1409
10	ILAHITA 6	175	1409
11	BULAMITA	295	1409
12	ILAHITA 4	534	1409
13	ILAHITA 2	182	1409
14	ILILIP/ILAHITA 3	437	1409
15	ILAHITA 1	244	1409
16	ILAHOP	279	1409
17	INDIBI	342	1409
18	INGABUS	415	1407
19	KUMANAK WOR	535	1409
20	M'BRAS	195	1411
21	MALAHUN	250	1409
22	MOI 1	211	1409
23	MOI 2	508	1409
24	NAMANGO	197	1409
25	SALATA	208	1409
26	SAROM	135	1410
27	SAUNES	155	1409
28	SUNUHU 1	571	1409
29	SUNUHU 2	388	1407
30	TAUANANGAS	278	1409
31	TIMINGIR	243	1411
32	URITA	211	1409
33	UTAMUP	271	1407
34	WAAHUN	215	1409
35	WARAGON	178	1409
Division	35 Urat		
1	ASILING	77	1410
2	DAIHUNGAI	167	1410
3	EMUI	252	1410
4	MEIWHAK	174	1410
5	MISIM	235	1410
6	MULENGAI	92	1410
7	MUSENAU	179	1410
8	MUSENDAI	523	1410
9	MUSENGI	323	1410
10	MUSILO	170	1410
11	MUSIMBLEM	162	1410
12	MUSINGWA	140	1410
13	MUSINGWIK	213	1410
14	NAMAISUM	118	1410
15	NANAHA	220	1410
16	NYAMBOLEI	151	1410
17	PELNANDU	210	1410
18	PEREMBIL	356	1410
19	TUMAN	206	1410
20	YERMAIN	116	1410
Division	36 Gawanga		
1	ABEGU	141	1411
2	APANGAI	349	1411
3	APOS	314	1410
4	ASANAKOR	303	1411
5	AUCHELI	101	1411
6	BONGOIMASI	310	1411
7	BONGOS	597	1411
8	DAINA	167	1411
9	INAKOR	358	1411
10	KUATENGISI	228	1411
11	KUBRIWAT	772	1411
12	KUYOR	234	1411
13	MAMSI FUMATUMBU	454	1411
14	MASALAGAR	271	1411
15	SAUKI	160	1411
16	TAU 2	339	1410
17	TAU 1	389	1410
18	WAMENAKOR	253	1411
19	WASAMBU	243	1411
20	WESOR	104	1411
21	WHAUKIA	459	1411
22	YUBANAKOR 1	324	1411
23	YUBANAKOR 2	284	1411
Division	37 Urim		
1	ALBULUM	284	1410
2	KILMANGLEM	189	1410
3	KURUNGUNAM	158	1410
4	LANINGUAP	376	1410
5	NIMBIOK	115	1411
6	PAGILO	307	1411
7	PINENG	105	1410
8	WINGAMON	81	1410
9	YAGRUMBOK 1	197	1411
10	YAGRUMBOK 2	301	1411
11	YAUATONG	209	1410
Division	38 Kombio		
1	BEN	61	1410

6.1 RURAL VILLAGES WITH AGRICULTURAL SYSTEM NUMBERS IN CENSUS ORDER

Province: 14 East Sepik

	Village	Population	System
2	CHERPMEL	198	1402
4	KOUPEM	93	1402
5	KUAMALA	160	1402
6	KUMBUM	104	1410
7	MERINGE	91	1410
9	MUYEM	75	1410
10	NIALU	80	1402
11	NYUMATIL	47	1402
12	PABNYEIP	67	1410
13	RINGIN	152	1410
14	SAKANGEL	106	1402
15	SAMARK	60	1409
16	SAMBU	88	1402
17	SANGAIEN	66	1402
18	SOAIEF	54	1410
19	TONG	159	1410
20	WUN	52	1409
21	YAKIO	56	1410
22	YAKUMBUM	69	1402
23	YATANGEL	78	1410
24	YAMBES	348	1410
25	YASE	84	1410
26	YASILE	67	1410
27	YASUMBONET	82	1410
29	YAURANG	172	1410
30	YETNYAM	47	1410
31	YETNIMBUM	180	1410
Division	39 Wam		
1	ARISILI	296	1409
2	BANA	232	1409
3	BENGIL	76	1409
4	HABINI	459	1409
5	LUWAITE	255	1410
6	SAHIK	123	1409
7	SELNAU	349	1409
8	SELNI	428	1409
9	SUMUL	137	1409
10	TUMAMBA	122	1409
11	WAHLEN	155	1409
12	WAREL	147	1409
13	WARINGAMBI	654	1409
14	YASUM	59	1402
Division	40 North Wosera		
1	ABUSIT	358	1406
2	BALAMPTA	168	1407
3	BAPANDU	225	1407
4	BOBMAGUM	424	1407
5	CHIGIANGU	366	1407
6	GULAKIM	334	1407
7	GWAIRARU	267	1407
8	GWINYINGI	174	1406
9	ISOGUM 1	365	1407
10	JAMBITANGET	552	1407
11	JIBAKIM	233	1407
12	JIBAKO	291	1407
13	KAMGE	309	1407
14	KAUGIAK	648	1407
15	KULUNGA	115	1407
16	KUMUNUGUM 1	182	1407
17	KUMUNUGUM 2	189	1407
18	KUMUNUGUM 3	231	1407
19	KUNJINGINI 1	224	1406
20	KUNJINGINI 2	157	1407
21	KUTIGUM	511	1407
22	KWANABANDU	380	1407
23	KWATMAGUM	382	1407
24	MANJUKWARUI	170	1407
25	MAUNDU	432	1407
26	MIKAU 1	476	1406
27	MIKAU 2	150	1406
28	MUL	248	1407
29	NALA	278	1405
30	ISOGUM 2	240	1407
31	NUNGWAIA	793	1411
32	PA'APPUMA	183	1411
33	RUBUGUM 1	105	1407
34	RUBUGUM 2	126	1407
35	RUBUGUM 3	156	1407
36	SARAGUM	546	1407
37	STAPIGUM	328	1407
38	TALANGU	137	1407
39	TATUMBA	251	1407
40	TENDEGUM	385	1406
41	NUMBUNGE 1-2	492	1407
42	TUWAIKIM	346	1406
43	UGUTAGWA	496	1407
44	UMUNOKO	379	1407
45	WABINDUMAKAG	716	1407
46	WAIGAMAGA	512	1407
47	WEIKOR	509	1411
Division	41 South Wosera		
1	APAMBI	220	1407
2	BANGLEGO	199	1406
3	JIPMAGO	136	1406
4	KAUSAGA	195	1406
5	KUPMABIT	223	1406
6	KWARINGIA	153	1402
7	KWAUNJAMA 1	198	1406
8	KWAUNJAMA 2	168	1402
9	LINGU	152	1406
10	MAGUNGU	155	1406
11	MANGUL	364	1405
12	MIKAU	244	1406
13	NAINDA	496	1406
14	NUNGWAIGO	615	1402
15	PALGE	197	1406
16	PATUKWA	236	1406
17	PUKAGO	400	1402
18	SERANGWANTU	457	1406
19	WABINDUGUM	184	1406
20	WOMBISA	584	1406
21	YAKIWAR	202	1406
22	YAMBIGO	237	1406
23	YINDIKO	227	1406

6.1 RURAL VILLAGES WITH AGRICULTURAL SYSTEM NUMBERS IN CENSUS ORDER

Province: 14 East Sepik

	Village	Population	System
DISTRICT	4 Ambunti		
Division	42 Sepik Plains		
1	AURIMBIT	332	1406
2	BANWINGEI	181	1402
3	BENSIM	93	1402
4	BURUI	148	1402
5	JAMA	361	1402
6	KAMBUBU	131	1402
7	KOSIMBI	261	1406
8	KWIMBA	140	1406
9	MAINGUGU	199	1402
10	MOI	151	1402
11	NAGOTIMBIT	94	1406
12	YAMINI	35	1402
Division	43 Burui Kunai		
1	GAIKAROBI	361	1402
2	KAIMBIAM	241	1402
3	MAIWI	165	1402
4	MARAP 1	257	1402
5	MARAP 2	298	1402
6	MIAMBEI	102	1402
7	NAMANGOA 1	261	1402
8	NAMBAGOA 2	151	1402
9	NOGOSOP	282	1402
10	SARUM	118	1402
11	SENGO	301	1402
12	SLEI 1	125	1402
13	SLEI 2	89	1402
14	TOREMBI 1	266	1402
15	TOREMBI 2	100	1402
16	TOREMBI 3	165	1402
17	VAGIPUT	124	1402
18	WANIKO	137	1402
19	WEREMAN	292	1402
20	WORIMBI	357	1402
21	YAKIAP	140	1402
22	YANGET	212	1402
Division	44 Main River		
1	INDABU	129	1418
2	JAPANAUT	195	1418
3	JAPANDAI	105	1418
4	KANDANGAI	330	1418
5	KANGANAMAN	367	1418
6	KOROGO	425	1418
7	MALINGAI	164	1418
8	NYAURENGAI	103	1418
9	PARAMBEI	267	1418
10	SUAPMERI	175	1418
11	TEGAUI	74	1418
12	YAMANUMBU	160	1418
13	YENTCHAN	145	1418
14	YENICHANMANGUA	225	1418
Division	45 Chambri Lakes		
1	AIBOM	404	1418
2	ARINJONE	69	1418
3	CHANGRIMAN	106	1402
4	INDINGAI	111	1418
5	KILIMBIT	161	1418
6	RUKRUK	73	1402
7	MARI	90	1402
8	MILAE	51	1418
9	PELIAGUI	94	1402
10	TIMBUNMERI	211	1418
11	WOMBUN	259	1418
12	YAMBIYAMBI	156	1402
Division	46 Upper Sepik		
1	AVATIP	575	1413
2	BRUGNOWI	134	1413
3	GARAMAMBU	282	1402
4	MAIO	124	1413
5	MALU	499	1413
6	YAMBON	363	1413
7	YAUUMBAK	219	1402
8	YERIKAI	204	1402
9	YESSAN	391	1413
Division	47 Waskuk Hills		
1	BAGLAM	140	1402
2	BANGWIS	265	1402
3	MARIWAI	67	1402
4	SASERIMAN - MENO	210	1402
5	TONGWINJAMB	415	1402
6	URAMBANJ	148	1402
7	WASKUK	107	1402
8	YELOGU	94	1402
Division	48 Namau Ablatak		
1	ABLATAK	181	1417
2	AMAKI	429	1417
3	AMBUKEN	143	1417
4	ASAWUR	100	1417
5	BIANANAMBA - KUMANSU	96	1417
6	KAWAKA	376	1417
7	KWAKAURU	261	1417
8	NAGERI	187	1417
9	WARASAI	193	1417
10	YAMANUMBU	37	1418
11	YAUNGET	112	1417
Division	49 Wongamusun		
1	ALAKAI	30	1417
2	BIAGA - WAGUMAS	61	1413
3	CHENAPIAN	147	1413
4	HAUNA	417	1413
5	KAVIEMBEI	87	1413
6	KUBKAIN	161	1413
7	OUM 1	302	1417
8	OUM 2	292	1417
9	SWAGUP	132	1413
10	TAURI	314	1413
11	WASKUK	39	1413
12	YAMBUNUMBU	35	1413
Division	50 Walio Sio		
4	LARIASO	49	1417
5	MABISI	60	1417
7	MEIWINI	39	1417
8	NAKEK	28	1417
9	NEIN	49	1417
10	NEKIEI	30	1417
11	PI 1 AND 2	62	1417

6.1 RURAL VILLAGES WITH AGRICULTURAL SYSTEM NUMBERS IN CENSUS ORDER

Province: 14 East Sepik

Village		Population	System
12	SAURINAPI	46	1417
13	SINEN	50	1417
14	SIO	77	1417
15	SOWANO	53	1417
17	TAUNANAPI	42	1417
18	WALIO	59	1417
20	WASORI	35	1417
21	WAURINAPI	87	1417
22	YABATAUWE	85	1417
Division	51 Niksek		
2	PAKA	144	1402
951	KWOTEFAFE	43	1415
952	MONEIFAFE	22	1415
953	MIYALE	45	1402
954	SETIALE	35	1415
955	SUMWARE	42	1415
Division	52 Samsai		
1	BEGAPUKI	85	1402
2	BITARA	133	1402
3	GAHOM/MOLI	98	1402
4	KAGIRU	105	1402
5	NAMU	28	1402
6	WAGU	119	1402
7	YIGEI	49	1402
Division	53 Waniap May		
1	AGRAME	51	1417
3	KAUIA - BAROPA	132	1417
4	TIGI	53	1417
5	UWAU	70	1417
6	WANIAP	169	1417
7	WOBURU	123	1417
8	YENUAI	71	1417
Division	54 Abei May		
2	BURUMAI	96	1413
3	FIYARIMIN	48	1402
5	UNANI	13	1413
6	USAGE/MIAMIN	112	1402
7	USALIMIN	71	1402
8	YUNAITIRI - AIMI	29	1402
9	S'VAMIN	61	1402
10	MAFIAMIN	42	1402
Division	55 Arai May		
1	ARAI	135	1413
2	AUGOT/SARI	47	1402
3	DIDIPAS	82	1402
4	ITELINU	97	1417
5	LOEHIEN	46	1402
6	NAKWI-AMASU	83	1402
7	NIMO-ABOYEMO	38	1402
8	WASUAI	79	1402
Division	56 Sepik May		
1	AUOM	69	1402
2	IEMOMBUI	146	1413
3	INIOK	220	1413
4	MOWI	238	1413
5	PANEWAI	80	1417
6	PAUPE	80	1402
Division	57 Central May		
1	ABAGAISU	72	1413
2	AMU	32	1402
3	AUMI	98	1413
4	AUNI	62	1413
5	IABREM	59	1413
6	IBU	96	1413
7	INAGRI	80	1402
8	PAINU	94	1413
9	PEKWE	99	1413
10	SAMO/OWININGA	65	1402
11	WANAMOI	78	1413
12	WANIUM	126	1402
13	YEI	41	1402

6.2 RURAL VILLAGES WITH AGRICULTURAL SYSTEM NUMBERS IN ALPHABETICAL ORDER

Province: 14 East Sepik

Village	Dist	Div	Unit	System
ABAGAISU	4	57	1	1413
ABAUIA	2	21	1	1403
ABEGU	3	36	1	1411
ABLATAK	4	48	1	1417
ABUSIT	3	40	1	1406
ADJORA	1	10	1	1419
AGINGUN	3	24	1	1405
AGRAME	4	53	1	1417
AGRANT	1	10	2	1419
AGRUMARA	1	7	1	1413
AHIGILIUM	3	26	1	1405
AIBOM	4	45	1	1418
AKAIAN	1	10	3	1419
AKURAN	1	7	2	1413
ALAKAI	4	49	1	1417
ALBINAMA 1	3	34	1	1409
ALBINAMA 2	3	34	2	1409
ALBINAMA 3	3	34	3	1409
ALBULUM	3	37	1	1410
ALISU	3	26	2	1405
ALUWINGEI	3	34	4	1409
AMAHOP	3	33	1	1408
AMAKI	4	48	2	1417
AMAN	3	33	2	1409
AMBASOLI	3	22	1	1404
AMBONWARI	1	1	1	1402
AMBUKANJA	3	22	2	1404
AMBUKEN	4	48	3	1417
AMBUKWON	3	22	3	1404
AMI	3	33	3	1408
AMONGABI	1	2	1	1402
AMU	4	57	2	1402
ANDAFUGAN	1	7	3	1402
ANDAMBIT	1	4	1	1415
ANDARANDAGUM	2	20	1	1402
ANDUA	1	7	4	1413
ANGANAMEI	1	3	1	1402
ANGANG	1	9	1	1413
ANGISI	1	9	2	1419
ANGORAM	1	6	1	1413
ANGRIMAN	1	6	2	1418
ANJO	1	9	3	1419
ANUNYALIN	3	29	1	1405
APAMBI	3	41	1	1407
APANGAI	3	36	2	1411
APANGAI 1	3	32	1	1408
APANGAI 2	3	32	2	1408
APERINGA WANGINGA	3	31	1	1408
APOS	3	36	3	1410
ARAI	4	55	1	1413
ARAINING	1	7	5	1402
ARAMUNDI	1	10	4	1419
ARAMUT	1	13	1	1401
ARANGO	1	10	5	1419
ARANGUNAM	1	7	6	1413
ARIAPAN	1	12	1	1402
ARINJONE	4	45	2	1418
ARISILI	3	39	1	1409
AROHEMI	2	17	1	1402
ASANAKOR	3	36	4	1411
ASANGAMUT	1	7	7	1402
ASAWUR	4	48	4	1417
ASILING	3	35	1	1410
AUCHELI	3	36	5	1411
AUGOT/SARI	4	55	2	1402
AUININ	1	4	2	1402
AUMI	4	57	3	1413
AUNI	4	57	4	1413
AUNYALIN 2	3	29	2	1405
AUNYELIM	3	33	4	1408
AUOM	4	56	1	1402
AUPIK 1	3	31	2	1408
AUPIK 2	3	31	3	1408
AURIMBIT	4	42	1	1406
AVANGUMBA	1	7	8	1413
AVATIP	4	46	1	1413
BAGLAM	4	47	1	1402
BAINYIK	3	30	1	1408
BALAM	2	17	2	1402
BALAMPTA	3	40	2	1407
BALANGABADANGAL	3	34	6	1409
BALIF	3	34	7	1409
BALMO	2	20	2	1402
BALMO	3	24	2	1405
BALOGWIL	3	30	2	1408
BAM	2	16	2	1420
BAM ISLAND	2	16	3	1414
BANA	3	39	2	1409
BANAK	2	17	3	1402
BANGLEGO	3	41	2	1406
BANGWIS	4	47	2	1402
BANWINGEI	4	42	2	1402
BAPANDU	3	40	3	1407
BARANGA	3	30	3	1408
BARAPISIM	1	2	2	1402
BARARAT	2	20	3	1402
BEGAPUKI	4	52	1	1402
BELAGEL	3	26	3	1404
BEN	3	38	1	1410
BENGARAGUM	3	28	1	1405
BENGIL	3	39	3	1409
BENSIM	4	42	3	1402
BEPANDU	3	27	1	1405
BIAGA - WAGUMAS	4	49	2	1413
BIANANAMBA - KUMANSU	4	48	5	1417
BIEN	1	11	1	1402
BIMA	2	20	4	1402
BISORIO	1	3	2	1415
BITARA	4	52	2	1402
BIWAT	1	7	9	1413
BLUP BLUP ISLAND	2	16	4	1414
BOBATEN	1	8	1	1419
BOBMAGUM	3	40	4	1407
BOBTEN	1	8	2	1413

6.2 RURAL VILLAGES WITH AGRICULTURAL SYSTEM NUMBERS IN ALPHABETICAL ORDER

Province: 14 East Sepik

Village	Dist	Div	Unit	System
BOGAMETAI	2	17	4	1402
BOIG	1	12	2	1402
BOIKIN	2	17	5	1402
BOIM	3	24	3	1404
BOMBITA	3	34	8	1409
BONAHOI	3	34	9	1409
BONAHOITAM	3	26	4	1405
BONAM	1	12	3	1402
BONGIORA	3	32	3	1408
BONGOIMASI	3	36	6	1411
BONGOS	3	36	7	1411
BRANDA	1	7	10	1413
BRUGNOWI	4	46	2	1413
BUBUAMO	3	26	5	1405
BUGARAM	1	9	4	1413
BUGIAUI	1	3	3	1402
BUGITU	3	27	2	1405
BUGUMUTE	1	3	4	1402
BUKIENDUAN	3	22	4	1404
BUKINARA	3	25	1	1404
BUKOI	2	16	1	1414
BULAMITA	3	34	11	1409
BUN	1	7	11	1413
BUNGAIN	2	19	1	1402
BUNGARIPMA	2	18	1	1402
BURUI	4	42	4	1402
BURUMAI	4	54	2	1413
BUT	2	17	6	1402
BUTEN	1	8	3	1419
BUTIKA	3	33	5	1408
CHANGRIMAN	4	45	3	1402
CHAULAGUNEM	3	29	3	1408
CHENAPIAN	4	49	3	1413
CHERAGUM	3	30	4	1408
CHERPMEL	3	38	2	1402
CHIGIANGU	3	40	5	1407
CHIGINAMBU	3	32	4	1408
CHIMBIAN	1	5	1	1402
CHIMBUT	1	2	3	1402
CHUIMONDO	1	8	4	1413
CHUINIMBU	2	20	5	1402
DAGAWAT	2	19	2	1402
DAGUA	2	17	7	1402
DAHABIGA	3	33	6	1408
DAIHUNGAI	3	35	2	1410
DAINA	3	36	8	1411
DANYIG	1	2	4	1402
DARAPAP	1	13	2	1401
DIDIPAS	4	55	3	1402
DIMIRI	1	7	13	1402
DOWANING	1	7	14	1402
DUMBIT 1	3	28	2	1406
DUMBIT 2	3	28	3	1406
DUNIGI	3	26	6	1404
DUWAR	1	10	6	1419
EMUI	3	35	3	1410
EREM	1	7	15	1402
ERONEN	1	10	7	1419
FIYARIMIN	4	54	3	1402
FOROK 1	2	19	3	1402
FOROK 2	2	19	4	1402
GAHOM/MOLI	4	52	3	1402
GAIKAROBI	4	43	1	1402
GAINIGUM	3	31	4	1408
GAPUN	1	14	1	1419
GARAMAMBU	4	46	3	1402
GAVIEN	1	12	4	1402
GAVIEN RESETTLEMENT	1	12	502	1412
GHANGRIWA	1	7	12	1402
GIRING	1	7	16	1413
GULAKIM	3	40	6	1407
GWAIRARU	3	40	7	1407
GWALIP 1	3	29	4	1405
GWALIP 2	3	29	5	1405
GWELIGUM 1	3	31	5	1408
GWELIGUM 2	3	31	6	1408
GWINYINGI	3	24	4	1405
GWINYINGI	3	40	8	1406
GWOINGWOIN	3	32	5	1408
HABINI	3	39	4	1409
HAGERAPA	3	22	5	1404
HAMBERAURI	2	18	2	1402
HANDARA	2	20	6	1403
HANYAK 1	2	20	7	1402
HANYAK 2	2	20	8	1402
HAPMOGAM	2	20	9	1403
HAREGIN	2	19	5	1402
HARENG	2	19	6	1402
HARINGEN	2	21	2	1403
HARINGER	3	22	6	1404
HARIPMOR	3	22	7	1402
HARUWA	2	21	3	1403
HAUBUGWE	2	21	4	1403
HAUNA	4	49	4	1413
HIGIABIN	3	33	7	1408
HIMBURU	3	25	2	1404
HOLIK	3	24	5	1404
IABREM	4	57	5	1413
IBU	4	57	6	1413
IEMOMBUI	4	56	2	1413
ILAHITA 1	3	34	15	1409
ILAHITA 2	3	34	13	1409
ILAHITA 4	3	34	12	1409
ILAHITA 5	3	34	5	1409
ILAHITA 6	3	34	10	1409
ILAHOP	3	34	16	1409
ILILIP/ILAHITA 3	3	34	14	1409
ILIPAIEM	3	26	7	1405

6.2 RURAL VILLAGES WITH AGRICULTURAL SYSTEM NUMBERS IN ALPHABETICAL ORDER

Province: 14 East Sepik

Village	Dist	Div	Unit	System
IMANMERI	1	1	2	1402
IMBIA	3	30	5	1408
IMBOIN	1	4	3	1402
IMBUANDO	1	11	2	1402
INAGOMBI	3	22	8	1403
INAGRI	4	57	7	1402
INAKOR	3	36	9	1411
INARO	1	3	5	1402
INDABU	4	44	1	1418
INDIBI	3	34	17	1409
INDINGAI	4	45	4	1418
INGABUS	3	34	18	1407
INIAI	1	2	5	1402
INIOK	4	56	3	1413
ISOGUM 1	3	40	9	1407
ISOGUM 2	3	40	30	1407
ITELINU	4	55	4	1417
JAMA	4	42	5	1402
JAMBITANGET	3	40	10	1407
JAME	3	30	6	1408
JANGIMUT	1	13	3	1401
JANGIT	1	10	8	1419
JAPANAUT	4	44	2	1418
JAPANDAI	4	44	3	1418
JAPARAKA NO.1	2	20	10	1402
JAPARAKA NO.2	2	20	11	1402
JAPUAIN	2	17	8	1402
JETA	1	10	9	1419
JIBAKIM	3	40	11	1407
JIBAKO	3	40	12	1407
JIGINUMBUT	1	5	2	1402
JIPMAGO	3	41	3	1406
KABOIBUS	3	26	8	1405
KABRIMAN	1	3	6	1402
KADOVAR ISLAND	2	16	5	1414
KAGIRU	4	52	4	1402
KAIEP	2	19	7	1402
KAIMBA	1	8	5	1402
KAIMBIAM	4	43	2	1402
KAIRIRU	3	26	9	1404
KAIRIVU	3	22	11	1404
KAIWARIA	1	1	3	1402
KALABU 1	3	30	7	1408
KALABU 2	3	30	8	1408
KAMANGAUI	1	5	3	1402
KAMANJAN	3	23	1	1405
KAMARAGU	3	23	2	1402
KAMASAU	2	19	8	1402
KAMBAIBOT	1	7	17	1402
KAMBARAMBA	1	8	6	1413
KAMBARRAGA	2	20	12	1402
KAMBELYI	3	22	9	1404
KAMBOT	1	8	7	1413
KAMBRINDO	1	6	4	1413
KAMBROK	1	6	3	1402
KAMBUBU	4	42	6	1402
KAMBUKU	1	8	8	1419
KAMBUNG	2	17	9	1402
KAMGE	3	40	13	1407
KAMINIMBIT	1	6	5	1418
KANDAI	2	19	9	1402
KANDANGAI	4	44	4	1418
KANDUANAM 1	1	6	6	1413
KANDUANAM 2	1	6	7	1413
KANGANAMAN	4	44	5	1418
KANINGRA	1	3	7	1402
KANSIMEI	1	1	4	1402
KARAGORA	2	21	5	1404
KARAPIA	3	22	10	1404
KARARAU	1	6	8	1418
KARASAU ISLAND	2	17	10	1402
KARAU	1	13	4	1401
KARAWOP	2	17	11	1402
KARINYIG	1	7	18	1402
KASIMAN	1	12	5	1402
KAUGIAK	3	40	14	1407
KAUIA - BAROPA	4	53	3	1417
KAUK	2	17	12	1402
KAUP	1	12	6	1402
KAUSAGA	3	41	4	1406
KAUSIMBI	1	7	19	1413
KAVIEMBEI	4	49	5	1413
KAWAKA	4	48	6	1417
KEKTEN	1	8	9	1402
KENYARI	2	19	10	1402
KEVIM	1	9	5	1419
KILIMBIT	4	45	5	1418
KILMANGLEM	3	37	2	1410
KINAKATEN	1	7	20	1413
KINBANGWA	3	30	9	1408
KINGAUI	1	5	4	1402
KINIAMBU	3	23	3	1402
KININIMBOGU	2	21	6	1404
KININYAN	2	21	7	1403
KIROP	1	10	10	1419
KIS	1	12	7	1402
KITCHIKAN	1	10	11	1419
KOANUMBO	2	17	13	1402
KOFI	2	17	14	1402
KOIKEN	2	18	3	1402
KOIL ISLAND	2	16	6	1414
KOIWAT	1	5	5	1402
KOMBENOBO	3	28	4	1405
KOMTING	1	9	6	1419
KONGRUM	1	9	7	1419
KONMEI	1	1	5	1402
KOPAR	1	11	3	1402
KORAGUR	2	16	7	1420
KOROGO	4	44	6	1418
KOROGOPA	1	8	10	1413
KOSIMBI	4	42	7	1406
KOTAI	2	17	15	1402
KOUPEM	3	38	4	1402
KOWIRO	2	20	13	1402

6.2 RURAL VILLAGES WITH AGRICULTURAL SYSTEM NUMBERS IN ALPHABETICAL ORDER

Province: 14 East Sepik

Village	Dist	Div	Unit	System
KRAIMBIT	1	3	8	1402
KREMENDING	2	18	5	1402
KRINJAMBI	1	6	9	1413
KUAMALA	3	38	5	1402
KUATENGISI	3	36	10	1411
KUBKAIN	4	49	6	1413
KUBRIWAT	3	36	11	1411
KUKWAL	3	32	6	1408
KULELIGUM	3	32	7	1408
KULUNGA	3	40	15	1407
KULUNGE	3	32	8	1408
KUMANAK WOR	3	34	19	1409
KUMBAGORA	2	18	6	1402
KUMBIWINGEI	3	23	4	1404
KUMBUHUN	3	25	3	1404
KUMBUM	3	38	6	1410
KUMINIBIS 1	3	30	10	1408
KUMINIBIS 2	3	30	11	1408
KUMINIM	2	17	16	1402
KUMUN	3	25	4	1404
KUMUNDU	2	17	19	1402
KUMUNUGUM 1	3	40	16	1407
KUMUNUGUM 2	3	40	17	1407
KUMUNUGUM 3	3	40	18	1407
KUNDIMA	1	7	21	1413
KUNDIMAN	1	1	6	1402
KUNGRIAMBUN	1	1	7	1402
KUNJINGINI 1	3	40	19	1406
KUNJINGINI 2	3	40	20	1407
KUPMABIT	3	41	5	1406
KURAGAMON	3	26	10	1405
KURUNGUNAM	3	37	3	1410
KURUPIE	2	17	17	1402
KUSANABU	3	28	5	1405
KUSANUN	2	20	14	1402
KUTIGUM	3	40	21	1407
KUVARI	3	22	12	1404
KUVENMAS	1	3	9	1402
KUYOR	3	36	12	1411
KWAGAMA	3	22	13	1404
KWAGWI	3	22	14	1404
KWAIAKUM	2	20	15	1402
KWAIAN	3	25	5	1404
KWAKAURU	4	48	7	1417
KWALIANGWA	2	20	16	1402
KWANABANDU	3	40	22	1407
KWANGEN	2	17	18	1402
KWARENGU	3	28	6	1405
KWARINGIA	3	41	6	1402
KWATMAGUM	3	40	23	1407
KWAUNJAMA 1	3	41	7	1406
KWAUNJAMA 2	3	41	8	1402
KWIMBA	4	42	8	1406
KWIMBU 1	3	28	7	1406
KWIMBU 2	3	28	8	1406
KWOIRUO	2	20	17	1403
KWORABRI	3	22	15	1404
KWORO	3	23	5	1404
KWOTEFAFE	4	51	951	1415
KWOWI	3	22	16	1404
LANGAM	1	8	11	1402
LANINGUAP	3	37	4	1410
LARIASO	4	50	4	1417
LATOMA	1	2	6	1402
LEHINGA 1	3	31	7	1408
LEHINGA 2	3	31	8	1408
LEMBUN	1	9	8	1419
LINGU	3	41	9	1406
LOEHIEN	4	55	5	1402
LOL	1	8	12	1419
LONEIM	3	30	12	1408
LOWAN	2	17	20	1402
LUWAITE	3	39	5	1410
M'BRAS	3	34	20	1411
MABISI	4	50	5	1417
MADVERI	1	7	26	1402
MAFIAMIN	4	54	10	1402
MAGAPITA	3	32	9	1408
MAGENDO 1	1	6	10	1413
MAGENDO 2	1	6	11	1413
MAGENDO 3 AND 4	1	6	12	1413
MAGOFIN	2	17	21	1402
MAGUNGU	3	41	10	1406
MAINGUGU	4	42	9	1402
MAIO	4	46	4	1413
MAIWI	4	43	3	1402
MAJUOM	2	17	22	1402
MAKAMBU	3	23	6	1404
MALAHUN	3	34	21	1409
MALAPAIEM	3	26	11	1405
MALBA 1	3	28	9	1408
MALBA 2	3	28	10	1408
MALIMBO	1	5	6	1402
MALINGAI	4	44	7	1418
MALU	4	46	5	1413
MAMBAURU	3	27	3	1405
MAMBE	2	19	11	1402
MAMBEL	1	12	8	1402
MAMBUK	3	22	17	1404
MAMSI FUMATUMBU	3	36	13	1411
MANDI	2	19	12	1402
MANGANJANGUT	1	5	7	1402
MANGEN	1	12	9	1402
MANGUL	3	41	11	1405
MANJAMAI	1	1	8	1402
MANJUKWARUI	3	40	24	1407
MANMONG	1	10	12	1419
MANSEP	1	12	10	1402
MANU	1	8	13	1419
MAPERINGA	2	20	18	1402
MAPRIK 1	3	30	13	1408
MAPRIK 2	3	30	14	1408
MAPUTMA	3	32	10	1408
MARABANJA	3	22	18	1404

6.2 RURAL VILLAGES WITH AGRICULTURAL SYSTEM NUMBERS IN ALPHABETICAL ORDER

Province: 14 East Sepik

Village	Dist	Div	Unit	System
MARAI	2	16	9	1420
MARAMBA	1	2	7	1402
MARAMBA	1	7	22	1402
MARAP 1	4	43	4	1402
MARAP 2	4	43	5	1402
MARAWAT	1	7	23	1402
MARBUK	1	11	4	1402
MARI	4	45	7	1402
MARIANMEI	1	3	10	1402
MARIGEI	3	22	19	1404
MARIK	2	18	8	1402
MARIWAI	4	47	3	1402
MASALAGAR	3	36	14	1411
MASANDENAI	1	1	9	1402
MASON	1	12	11	1402
MAUNDU	3	40	25	1407
MAURE	2	18	9	1402
MEAKAMBUT	1	4	4	1415
MEDAMEN	3	29	6	1402
MEIKEROBI	1	1	10	1402
MEIWHAK	3	35	4	1410
MEIWINI	4	50	7	1417
MENDAM	1	13	5	1401
MENSUAT	1	7	24	1402
MERINGE	3	38	7	1410
MESKA	1	3	11	1402
MIAMBEI	4	43	6	1402
MIKAU	3	41	12	1406
MIKAU 1	3	40	26	1406
MIKAU 2	3	40	27	1406
MILAE	4	45	8	1418
MILAK	3	32	11	1408
MINDIMBIT	1	6	13	1418
MINIAS	1	9	9	1419
MISANGAI	3	33	8	1408
MISIM	3	35	5	1410
MISUAM	2	17	23	1402
MIYALE	4	51	953	1402
MOI	4	42	10	1402
MOI 1	3	34	22	1409
MOI 2	3	34	23	1409
MOIM	1	6	14	1413
MOLI	1	9	10	1419
MONEIFAFE	4	51	952	1415
MONGITOK	1	9	11	1419
MONGUM	1	9	13	1419
MOWI	4	56	4	1413
MUL	3	40	28	1407
MULENGAI	3	35	6	1410
MUNDAMBA	1	7	25	1402
MUNDJIHARANJI	2	21	8	1403
MUNDOMUNDO	1	6	15	1402
MUNDUNGAI	2	19	13	1402
MUNIWARA	2	20	19	1402
MUNJIN	2	19	14	1402
MUNYITEN	1	8	14	1419
MURKEN	1	10	13	1419
MUSANGUN	2	19	15	1402
MUSENAU	3	35	7	1410
MUSENDAI	3	35	8	1410
MUSENGI	3	35	9	1410
MUSHU 1	2	16	10	1420
MUSILO	3	35	10	1410
MUSIMBLEM	3	35	11	1410
MUSINGWA	3	35	12	1410
MUSINGWIK	3	35	13	1410
MUSUWAGEN	2	21	9	1403
MUYEM	3	38	9	1410
NAGERI	4	48	8	1417
NAGIPAEM	3	29	7	1402
NAGOTIMBIT	4	42	11	1406
NAINDA	3	41	13	1406
NAKEK	4	50	8	1417
NAKWI-AMASU	4	55	6	1402
NALA	3	40	29	1405
NAMAISUM	3	35	14	1410
NAMANGO	3	34	24	1409
NAMANGOA 1	4	43	7	1402
NAMBAGOA 2	4	43	8	1402
NAMBARI 1	3	24	6	1404
NAMBARI 2	3	24	7	1405
NAMBENOGWEN	3	29	8	1405
NAMU	4	52	5	1402
NAMUT	1	5	8	1402
NANAHA	3	35	15	1410
NANGUMARUM	2	20	20	1402
NARAMGO	3	28	11	1405
NAURUK	1	10	14	1419
NEIMO	2	21	10	1403
NEIN	4	50	9	1417
NEKIEI	4	50	10	1417
NELIGUM	3	30	15	1408
NELIGUM	3	31	9	1408
NIABOGU	2	21	12	1404
NIAGOMBI	2	21	11	1403
NIALU	3	38	10	1402
NILU	3	33	9	1408
NIMBIHU	3	26	12	1405
NIMBIOK	3	37	5	1411
NIMO-ABOYEMO	4	55	7	1402
NINDEPOLYE	3	24	8	1404
NINDIKO	3	31	10	1408
NINGALIMBI	3	33	10	1408
NINGILIMBI 1	3	31	11	1407
NINGILIMBI 2	3	31	12	1407
NIUMINDOGUM	2	20	21	1403
NOGOSOP	4	43	9	1402
NU'MAREB	2	19	16	1402
NUMAKUM	3	31	13	1407
NUMBOTUI	2	17	24	1402
NUMBUNGE 1-2	3	40	41	1407
NUMBURUON	3	22	20	1404
NUMERI	1	3	13	1402
NUMIASOLI	3	22	21	1404
NUMIEGUN	2	17	25	1402

6.2 RURAL VILLAGES WITH AGRICULTURAL SYSTEM NUMBERS IN ALPHABETICAL ORDER

Province: 14 East Sepik

Village	Dist	Div	Unit	System
NUMIENGWAI	2	17	26	1402
NUMINDOBUM	2	20	22	1402
NUMOIKUM	2	20	23	1402
NUNGALIM	3	33	11	1408
NUNGORI	2	20	24	1403
NUNGWAIA	3	40	31	1411
NUNGWAIGO	3	41	14	1402
NYAKANDOGUN	2	21	13	1403
NYAMBOLEI	3	35	16	1410
NYAURENGAI	4	44	8	1418
NYUMATIL	3	38	11	1402
OGOMANIA	1	10	15	1419
OMBOS	1	10	16	1419
OREMAI	1	10	17	1419
OUM 1	4	49	7	1417
OUM 2	4	49	8	1417
PA'APPUMA	3	40	32	1411
PABNYEIP	3	38	12	1410
PACHAN	3	22	22	1404
PAGILO	3	37	6	1411
PAIMARU	3	22	23	1404
PAINU	4	57	8	1413
PAKA	4	51	2	1402
PALGE	3	41	15	1406
PALIAMA	2	18	12	1402
PALIPAN	1	10	18	1419
PALPUL	2	19	17	1402
PAMBAN	1	8	15	1419
PANEWAI	4	56	5	1417
PANGEIMBIT	3	23	7	1402
PANKIN	1	10	19	1419
PANPANIA	2	20	25	1402
PANYATEN	1	8	17	1419
PAPARAM	2	20	26	1402
PARAMBEI	4	44	9	1418
PARINA	3	22	24	1404
PAROM	2	17	27	1402
PARUWA	2	20	27	1402
PASSAM	2	18	13	1402
PATAKA	1	8	16	1419
PATANDA	2	19	18	1402
PATUKWA	3	41	16	1406
PAUPE	4	56	6	1402
PEKWE	4	57	9	1413
PELIAGUI	4	45	9	1402
PELNANDU	3	35	17	1410
PENJEN	2	17	29	1402
PEREMBIL	3	35	18	1410
PERINGA	2	20	28	1402
PERRINGGA	2	17	28	1402
PI 1 AND 2	4	50	11	1417
PIAMBIT	1	5	9	1402
PINAM	1	10	20	1419
PINANG	1	6	16	1413
PINENG	3	37	7	1410
POKORAN	1	10	21	1419
POROMBI	2	20	29	1402
PUARA	2	20	30	1403
PUKAGO	3	41	17	1402
PUNDUGWA	1	7	27	1402
PUSHYTEN	1	8	18	1419
RABIAWA	2	20	31	1402
RABUNDOGUM	2	20	32	1402
RAINIMBO	2	17	30	1402
RATEN	1	8	19	1419
RINDAGUM	2	20	33	1402
RINGIN	3	38	13	1410
RONGWIK	1	9	15	1419
RUBUGUM 1	3	40	33	1407
RUBUGUM 2	3	40	34	1407
RUBUGUM 3	3	40	35	1407
RUKRUK	4	45	6	1402
RUMLAL	2	16	12	1420
S'VAMIN	4	54	9	1402
SAGISIK	3	28	12	1405
SAHALI	3	33	12	1408
SAHIK	3	39	6	1409
SAINA	3	22	25	1404
SAKANGEL	3	38	14	1402
SALATA	3	34	25	1409
SAMAP	2	19	19	1402
SAMARK	3	38	15	1409
SAMBU	3	38	16	1402
SAMGIK	3	31	14	1408
SAMO/OWININGA	4	57	10	1402
SAMOWIA	2	20	34	1402
SANGAIEN	3	38	17	1402
SANGRIMAN	1	3	14	1402
SAPALU	1	7	28	1413
SARA	3	24	9	1404
SARAGUM	3	40	36	1407
SAROM	3	34	26	1410
SARUM	4	43	10	1402
SASANAMBOGU	2	21	14	1404
SASERIMAN - MENO	4	47	4	1402
SASSOYA	2	20	35	1402
SAUI	1	5	10	1402
SAUKI	3	36	15	1411
SAULIK	3	32	12	1408
SAUNES	3	34	27	1409
SAURINAPI	4	50	12	1417
SAUSENDUAN	3	22	26	1404
SELNAU	3	39	7	1409
SELNI	3	39	8	1409
SENAE	1	14	2	1419
SENGO	4	43	11	1402
SENGORO	2	21	15	1403
SENGRI	3	22	27	1404
SERABA	1	5	11	1402
SERAGAKIM 1	3	31	15	1407
SERAGAKIM 2	3	31	16	1407
SERANDU	3	31	17	1407

6.2 RURAL VILLAGES WITH AGRICULTURAL SYSTEM NUMBERS IN ALPHABETICAL ORDER

Province: 14 East Sepik

Village	Dist	Div	Unit	System
SERANGWANTU	3	41	18	1406
SETIALE	4	51	954	1415
SEVENBUK	1	3	15	1402
SHAGUR	2	16	13	1420
SHAM	2	16	14	1420
SIBABARU	2	16	15	1420
SIGAN-SIL	2	19	20	1402
SIKAIUM	1	2	8	1402
SIMA	3	22	28	1404
SIMANGAUI	1	5	12	1402
SIMBIRI	1	8	20	1419
SIMBLANGU	2	18	16	1402
SIMBOMIE	3	22	29	1404
SINEN	4	50	13	1417
SINGARIN	1	11	5	1402
SINIANGU	3	22	30	1404
SINIMBLAI	2	19	22	1402
SIO	4	50	14	1417
SIPISIPI	1	7	29	1413
SIRASIN	2	16	17	1420
SLEI 1	4	43	12	1402
SLEI 2	4	43	13	1402
SMAIN	2	17	32	1402
SMALL MUSCHU	2	16	18	1420
SOAIEF	3	38	18	1410
SOLI	3	22	31	1404
SORI	1	9	16	1419
SOTANGAI	2	20	36	1402
SOWAN	2	17	33	1402
SOWANO	4	50	15	1417
STAPIGUM	3	40	37	1407
SUAMBUKUM 1	3	28	13	1405
SUAMBUKUM 2	3	28	14	1405
SUANDOGUM	2	20	37	1402
SUANUM	2	19	23	1402
SUANUMBU	3	27	4	1405
SUAPMERI	4	44	10	1418
SUIMBO	1	5	13	1402
SUK	1	12	12	1402
SUMUL	3	39	9	1409
SUMWARE	4	51	955	1415
SUNUHU 1	3	34	28	1409
SUNUHU 2	3	34	29	1407
SUONDO	2	21	16	1403
SUP	2	16	19	1420
SUPA	3	33	13	1408
SUPARI	3	33	14	1409
SURAI	2	16	20	1420
SURUMBA	2	17	31	1402
SUWAMBUKAU	2	18	17	1402
SWAGUP	4	49	9	1413
TAKUR	2	16	21	1414
TALANGU	3	40	38	1407
TAMBALI	1	6	17	1413
TAMBANUM	1	6	18	1413
TAMO AND BUTA	1	9	17	1419
TANGAMBIT	1	2	9	1402
TANGORI 1	2	20	38	1402
TANGORI 2	2	20	39	1402
TARAKAI	1	3	16	1402
TARAWAI ISLAND	2	16	22	1420
TATUMBA	3	40	39	1407
TAU 1	3	36	17	1410
TAU 2	3	36	16	1410
TAUANANGAS	3	34	30	1409
TAUL	2	19	24	1402
TAUNANAPI	4	50	17	1417
TAURI	4	49	10	1413
TEGAUI	4	44	11	1418
TENDEGUM	3	40	40	1406
TIGI	4	53	4	1417
TIMBOLI	1	5	14	1402
TIMBUNANGUA	2	20	40	1402
TIMBUNMERI	4	45	10	1418
TIMERU	2	19	25	1402
TIMINGIR	3	34	31	1411
TIMUNKE	1	6	19	1418
TOANUMBU	2	20	41	1403
TOGO	1	9	18	1419
TONG	3	38	19	1410
TONGWINJAMB	4	47	5	1402
TOREMBI 1	4	43	14	1402
TOREMBI 2	4	43	15	1402
TOREMBI 3	4	43	16	1402
TRING	2	19	26	1402
TUMAMBA	3	39	10	1409
TUMAN	3	35	19	1410
TUNGAMBIT	1	3	17	1402
TUNGUM	1	4	5	1402
TURUBU	2	19	27	1402
TUWAIKIM	3	40	42	1406
UGUTAGWA	3	40	43	1407
ULUNKOHOITU	3	26	13	1405
ULUPU	3	29	9	1405
UMUNOKO	3	40	44	1407
UNANI	4	54	5	1413
UNIWARO	2	16	23	1414
URAGEMBI	2	20	42	1402
URAMBANJ	4	47	6	1402
URIP	2	17	34	1402
URITA	3	34	32	1409
USAGE/MIAMIN	4	54	6	1402
USALIMIN	4	54	7	1402
UTAMUP	3	34	33	1407
UWAU	4	53	5	1417
VAGIPUT	4	43	17	1402
WAAHUN	3	34	34	1409
WABINDUGUM	3	41	19	1406
WABINDUMAKAG	3	40	45	1407
WABLIMAS	1	4	6	1402
WAGAMUT	1	13	6	1401
WAGU	4	52	6	1402

6.2 RURAL VILLAGES WITH AGRICULTURAL SYSTEM NUMBERS IN ALPHABETICAL ORDER

Province: 14 East Sepik

Village	Dist	Div	Unit	System
WAGUPMA	3	27	5	1405
WAHLEN	3	39	11	1409
WAIBAB	2	19	28	1402
WAIGAKUM 1	3	28	15	1408
WAIGAKUM 2	3	28	16	1405
WAIGAKUM 3	3	28	17	1405
WAIGAMAGA	3	40	46	1407
WAIKIM	3	32	13	1408
WAIRAMAN	2	20	43	1402
WALAHUTA	3	33	15	1408
WALANDUOM	2	17	35	1402
WALANGAI	3	27	6	1405
WALIO	4	50	18	1417
WALIS ISLAND	2	16	24	1420
WAMA	1	10	22	1419
WAMAINA	3	22	32	1404
WAMANGU	2	20	44	1402
WAMBAK	3	32	14	1408
WAMBE	2	20	45	1402
WAMENAKOR	3	36	18	1411
WAMOIN	2	21	17	1403
WAMSAK 1	3	33	16	1409
WAMSAK 2	3	33	17	1409
WANAMOI	4	57	11	1413
WANDOMI	2	19	29	1402
WANIAP	4	53	6	1417
WANIGAKUM	2	20	46	1402
WANIKO	4	43	18	1402
WANIUM	4	57	12	1402
WARAGON	3	34	35	1409
WARAGUMBE	3	22	33	1404
WARAMURU	3	22	34	1404
WARASAI	4	48	9	1417
WAREL	3	39	12	1409
WARIEMBA	2	21	18	1403
WARIGUM	1	5	15	1402
WARINGAMBI	3	39	13	1409
WASAMBU	3	36	19	1411
WASKUK	4	47	7	1402
WASKUK	4	49	11	1413
WASKURIN	1	12	13	1402
WASORI	4	50	20	1417
WASUAI	4	55	8	1402
WATAM	1	14	3	1419
WAU	2	19	30	1402
WAURINAPI	4	50	21	1417
WAUTOGIK	2	17	36	1402
WAWAT 1	2	19	31	1402
WAWAT 2	2	19	32	1402
WEI ISLAND	2	16	25	1414
WEIKOR	3	40	47	1411
WEREMAN	4	43	19	1402
WESOR	3	36	20	1411
WHAUKIA	3	36	21	1411
WINDJUAN	3	25	6	1404
WINGAMON	3	37	8	1410
WINGEI 1	3	27	7	1405
WINGEI 2	3	27	8	1405
WITUPE 1	3	23	8	1405
WITUPE 2	3	23	9	1405
WOBURU	4	53	7	1417
WOGINARA 1	2	17	37	1402
WOGINARA 2	2	17	38	1402
WOM	1	8	21	1402
WOMBISA	3	41	20	1406
WOMBUN	1	6	20	1413
WOMBUN	4	45	11	1418
WONGAN	1	14	4	1419
WORA	3	31	18	1405
WORI	1	8	22	1419
WORIMBI	4	43	20	1402
WUN	3	38	20	1409
YABATAUWE	4	50	22	1417
YABOMINU	3	26	14	1405
YAGRUMBOK 1	3	37	9	1411
YAGRUMBOK 2	3	37	10	1411
YAKIAP	4	43	21	1402
YAKIO	3	38	21	1410
YAKIWAR	3	41	21	1406
YAKUMBUM	3	38	22	1402
YALAHIN	3	29	10	1405
YAMANDIM	1	4	7	1402
YAMANUMBU	4	44	12	1418
YAMANUMBU	4	48	10	1418
YAMBEN	2	19	33	1402
YAMBES	3	38	24	1410
YAMBIGO	3	41	22	1406
YAMBIYAMBI	4	45	12	1402
YAMBON	4	46	6	1413
YAMBUNUMBU	4	49	12	1413
YAMELIKUM	3	32	15	1408
YAMEN	1	8	23	1419
YAMIKUM	3	30	16	1408
YAMIL 1	3	29	11	1408
YAMIL 2	3	29	12	1408
YAMIL 3	3	29	13	1408
YAMINBOT	1	7	30	1402
YAMINI	4	42	12	1402
YAMONDINDEI	1	3	18	1402
YANGET	4	43	22	1402
YANGISAGU	3	28	18	1405
YAR	1	9	20	1413
YARABOIM	3	24	10	1404
YARAPOS	2	18	20	1402
YARI / NUNGAWA	2	20	47	1402
YASE	3	38	25	1410
YASILE	3	38	26	1410
YASUM	3	39	14	1402
YASUMBONET	3	38	27	1410
YATANGEL	3	38	23	1410
YAUATONG	3	37	11	1410
YAUGIBA	2	19	34	1402
YAUL	1	7	31	1402
YAUNGET	4	48	11	1417
YAURANG	3	38	29	1410

6.2 RURAL VILLAGES WITH AGRICULTURAL SYSTEM NUMBERS IN ALPHABETICAL ORDER

Province: 14 East Sepik

Village	Dist	Div	Unit	System	Village	Dist	Div	Unit	System
YAUUMBAK	4	46	7	1402	YESSAN	4	46	9	1413
YAUWANJUNGEI 1	3	28	19	1405	YETNIMBUM	3	38	31	1410
YAUWANJUNGEI 2	3	28	20	1405	YETNYAM	3	38	30	1410
YAWIK	2	16	8	1420	YIBAB	2	19	35	1402
YEI	4	57	13	1402	YIGEI	4	52	7	1402
YEKIMBOLYE 1	2	21	19	1404	YIMAS	1	4	8	1402
YEKIMBOLYE 2	3	22	35	1403	YINDIGUM	1	5	16	1402
YELOGU	4	47	8	1402	YINDIKO	3	41	23	1406
YENGIO	3	28	21	1405	YUBANAKOR 1	3	36	22	1411
YENICHANMANGUA	4	44	14	1418	YUBANAKOR 2	3	36	23	1411
YENITABAK	1	2	11	1402	YUERIMAN	1	6	21	1413
YENTCHAN	4	44	13	1418	YUMUNGU	2	20	48	1402
YENUAI	4	53	8	1417	YUNAITIRI - AIMI	4	54	8	1402
YERIKAI	4	46	8	1402	YUO ISLAND	2	17	39	1402
YERMAIN	3	35	20	1410	YUWUN	2	16	11	1420
YESIMBIT	1	3	19	1402					

6.3 RURAL VILLAGES LISTED BY AGRICULTURAL SYSTEM **Province: 14 East Sepik**

Village	Dist	Div	Unit	RMU
SYSTEM 1401				
ARAMUT	1	13	1	280
DARAPAP	1	13	2	280
JANGIMUT	1	13	3	280
KARAU	1	13	4	280
MENDAM	1	13	5	280
WAGAMUT	1	13	6	280
SYSTEM 1402				
AMBONWARI	1	1	1	349
AMONGABI	1	2	1	319
AMU	4	57	2	111
ANDAFUGAN	1	7	3	277
ANDARANDAGUM	2	20	1	30
ANGANAMEI	1	3	1	212
ARAINING	1	7	5	277
ARIAPAN	1	12	1	29
AROHEMI	2	17	1	17
ASANGAMUT	1	7	7	264
AUGOT/SARI	4	55	2	118
AUININ	1	4	2	349
AUOM	4	56	1	111
BAGLAM	4	47	1	96
BALAM	2	17	2	14
BALMO	2	20	2	60
BANAK	2	17	3	16
BANGWIS	4	47	2	98
BANWINGEI	4	42	2	88
BARAPISIM	1	2	2	349
BARARAT	2	20	3	63
BEGAPUKI	4	52	1	158
BENSIM	4	42	3	50
BIEN	1	11	1	279
BIMA	2	20	4	62
BITARA	4	52	2	293
BOGAMETAI	2	17	4	16
BOIG	1	12	2	29
BOIKIN	2	17	5	19
BONAM	1	12	3	346
BUGIAUI	1	3	3	349
BUGUMUTE	1	3	4	349
BUNGAIN	2	19	1	28
BUNGARIPMA	2	18	1	29
BURUI	4	42	4	88
BUT	2	17	6	15
CHANGRIMAN	4	45	3	173
CHERPMEL	3	38	2	43
CHIMBIAN	1	5	1	93
CHIMBUT	1	2	3	349
CHUINIMBU	2	20	5	63
DAGAWAT	2	19	2	28
DAGUA	2	17	7	16
DANYIG	1	2	4	234
DIDIPAS	4	55	3	118
DIMIRI	1	7	13	277
DOWANING	1	7	14	277
EREM	1	7	15	264
FIYARIMIN	4	54	3	131
FOROK 1	2	19	3	25
FOROK 2	2	19	4	27
GAHOM/MOLI	4	52	3	160
GAIKAROBI	4	43	1	52
GARAMAMBU	4	46	3	172
GAVIEN	1	12	4	346
GHANGRIWA	1	7	12	277
HAMBERAURI	2	18	2	30
HANYAK 1	2	20	7	37
HANYAK 2	2	20	8	37
HAREGIN	2	19	5	25
HARENG	2	19	6	28
HARIPMOR	3	22	7	62
IMANMERI	1	1	2	321
IMBOIN	1	4	3	349
IMBUANDO	1	11	2	86
INAGRI	4	57	7	111
INARO	1	3	5	332
INIAI	1	2	5	221
JAMA	4	42	5	88
JAPARAKA NO.1	2	20	10	343
JAPARAKA NO.2	2	20	11	343
JAPUAIN	2	17	8	33
JIGINUMBUT	1	5	2	88
KABRIMAN	1	3	6	179
KAGIRU	4	52	4	293
KAIEP	2	19	7	26
KAIMBA	1	8	5	85
KAIMBIAM	4	43	2	52
KAIWARIA	1	1	3	349
KAMANGAUI	1	5	3	93
KAMARAGU	3	23	2	64
KAMASAU	2	19	8	28
KAMBAIBOT	1	7	17	277
KAMBARRAGA	2	20	12	68
KAMBROK	1	6	3	29
KAMBUBU	4	42	6	88
KAMBUNG	2	17	9	17
KANDAI	2	19	9	28
KANINGRA	1	3	7	349
KANSIMEI	1	1	4	349
KARASAU ISLAND	2	17	10	12
KARAWOP	2	17	11	16
KARINYIG	1	7	18	264
KASIMAN	1	12	5	29
KAUK	2	17	12	14
KAUP	1	12	6	347
KEKTEN	1	8	9	85
KENYARI	2	19	10	28
KINGAUI	1	5	4	64
KINIAMBU	3	23	3	62
KIS	1	12	7	347
KOANUMBO	2	17	13	17
KOFI	2	17	14	16
KOIKEN	2	18	3	30
KOIWAT	1	5	5	93
KONMEI	1	1	5	349
KOPAR	1	11	3	81
KOTAI	2	17	15	17
KOUPEM	3	38	4	43

6.3 RURAL VILLAGES LISTED BY AGRICULTURAL SYSTEM **Province: 14 East Sepik**

Village	Dist	Div	Unit	RMU
KOWIRO	2	20	13	68
KRAIMBIT	1	3	8	179
KREMENDING	2	18	5	30
KUAMALA	3	38	5	43
KUMBAGORA	2	18	6	343
KUMINIM	2	17	16	14
KUMUNDU	2	17	19	17
KUNDIMAN	1	1	6	349
KUNGRIAMBUN	1	1	7	349
KURUPIE	2	17	17	17
KUSANUN	2	20	14	344
KUVENMAS	1	3	9	213
KWAIAKUM	2	20	15	30
KWALIANGWA	2	20	16	64
KWANGEN	2	17	18	17
KWARINGIA	3	41	6	95
KWAUNJAMA 2	3	41	8	95
LANGAM	1	8	11	85
LATOMA	1	2	6	349
LOEHIEN	4	55	5	129
LOWAN	2	17	20	14
MADVERI	1	7	26	277
MAFIAMIN	4	54	10	131
MAGOFIN	2	17	21	16
MAINGUGU	4	42	9	50
MAIWI	4	43	3	88
MAJUOM	2	17	22	19
MALIMBO	1	5	6	88
MAMBE	2	19	11	29
MAMBEL	1	12	8	86
MANDI	2	19	12	25
MANGANJANGUT	1	5	7	94
MANGEN	1	12	9	346
MANJAMAI	1	1	8	349
MANSEP	1	12	10	346
MAPERINGA	2	20	18	67
MARAMBA	1	2	7	319
MARAMBA	1	7	22	277
MARAP 1	4	43	4	52
MARAP 2	4	43	5	52
MARAWAT	1	7	23	277
MARBUK	1	11	4	279
MARI	4	45	7	174
MARIANMEI	1	3	10	349
MARIK	2	18	8	30
MARIWAI	4	47	3	98
MASANDENAI	1	1	9	179
MASON	1	12	11	345
MAURE	2	18	9	25
MEDAMEN	3	29	6	33
MEIKEROBI	1	1	10	349
MENSUAT	1	7	24	277
MESKA	1	3	11	349
MIAMBEI	4	43	6	52
MISUAM	2	17	23	17
MIYALE	4	51	953	157
MOI	4	42	10	50
MUNDAMBA	1	7	25	264
MUNDOMUNDO	1	6	15	91
MUNDUNGAI	2	19	13	28
MUNIWARA	2	20	19	29
MUNJIN	2	19	14	28
MUSANGUN	2	19	15	30
NAGIPAEM	3	29	7	33
NAKWI-AMASU	4	55	6	118
NAMANGOA 1	4	43	7	88
NAMBAGOA 2	4	43	8	52
NAMU	4	52	5	349
NAMUT	1	5	8	88
NANGUMARUM	2	20	20	37
NIALU	3	38	10	43
NIMO-ABOYEMO	4	55	7	118
NOGOSOP	4	43	9	52
NU'MAREB	2	19	16	28
NUMBOTUI	2	17	24	19
NUMERI	1	3	13	179
NUMIEGUN	2	17	25	31
NUMIENGWAI	2	17	26	33
NUMINDOBUM	2	20	22	67
NUMOIKUM	2	20	23	30
NUNGWAIGO	3	41	14	95
NYUMATIL	3	38	11	43
PAKA	4	51	2	158
PALIAMA	2	18	12	344
PALPUL	2	19	17	29
PANGEIMBIT	3	23	7	52
PANPANIA	2	20	25	30
PAPARAM	2	20	26	30
PAROM	2	17	27	17
PARUWA	2	20	27	29
PASSAM	2	18	13	343
PATANDA	2	19	18	28
PAUPE	4	56	6	291
PELIAGUI	4	45	9	179
PENJEN	2	17	29	33
PERINGA	2	20	28	63
PERRINGGA	2	17	28	31
PIAMBIT	1	5	9	91
POROMBI	2	20	29	344
PUKAGO	3	41	17	50
PUNDUGWA	1	7	27	277
RABIAWA	2	20	31	93
RABUNDOGUM	2	20	32	67
RAINIMBO	2	17	30	19
RINDAGUM	2	20	33	30
RUKRUK	4	45	6	294
S'VAMIN	4	54	9	290
SAKANGEL	3	38	14	43
SAMAP	2	19	19	28
SAMBU	3	38	16	43
SAMO/OWININGA	4	57	10	111
SAMOWIA	2	20	34	29
SANGAIEN	3	38	17	43
SANGRIMAN	1	3	14	179
SARUM	4	43	10	52
SASERIMAN - MENO	4	47	4	96
SASSOYA	2	20	35	30
SAUI	1	5	10	67

6.3 RURAL VILLAGES LISTED BY AGRICULTURAL SYSTEM **Province: 14 East Sepik**

Village	Dist	Div	Unit	RMU
SENGO	4	43	11	88
SERABA	1	5	11	68
SEVENBUK	1	3	15	213
SIGAN-SIL	2	19	20	28
SIKAIUM	1	2	8	319
SIMANGAUI	1	5	12	63
SIMBLANGU	2	18	16	30
SINGARIN	1	11	5	281
SINIMBLAI	2	19	22	28
SLEI 1	4	43	12	52
SLEI 2	4	43	13	52
SMAIN	2	17	32	17
SOTANGAI	2	20	36	64
SOWAN	2	17	33	14
SUANDOGUM	2	20	37	67
SUANUM	2	19	23	28
SUIMBO	1	5	13	88
SUK	1	12	12	346
SURUMBA	2	17	31	33
SUWAMBUKAU	2	18	17	21
TANGAMBIT	1	2	9	349
TANGORI 1	2	20	38	30
TANGORI 2	2	20	39	39
TARAKAI	1	3	16	349
TAUL	2	19	24	28
TIMBOLI	1	5	14	94
TIMBUNANGUA	2	20	40	62
TIMERU	2	19	25	29
TONGWINJAMB	4	47	5	96
TOREMBI 1	4	43	14	52
TOREMBI 2	4	43	15	52
TOREMBI 3	4	43	16	52
TRING	2	19	26	28
TUNGAMBIT	1	3	17	179
TUNGUM	1	4	5	283
TURUBU	2	19	27	28
URAGEMBI	2	20	42	344
URAMBANJ	4	47	6	98
URIP	2	17	34	17
USAGE/MIAMIN	4	54	6	131
USALIMIN	4	54	7	134
VAGIPUT	4	43	17	52
WABLIMAS	1	4	6	349
WAGU	4	52	6	102
WAIBAB	2	19	28	28
WAIRAMAN	2	20	43	64
WALANDUOM	2	17	35	17
WAMANGU	2	20	44	68
WAMBE	2	20	45	307
WANDOMI	2	19	29	29
WANIGAKUM	2	20	46	344
WANIKO	4	43	18	52
WANIUM	4	57	12	111
WARIGUM	1	5	15	93
WASKUK	4	47	7	98
WASKURIN	1	12	13	29
WASUAI	4	55	8	118
WAU	2	19	30	28
WAUTOGIK	2	17	36	17
WAWAT 1	2	19	31	28
WAWAT 2	2	19	32	28
WEREMAN	4	43	19	88
WOGINARA 1	2	17	37	17
WOGINARA 2	2	17	38	17
WOM	1	8	21	85
WORIMBI	4	43	20	52
YAKIAP	4	43	21	53
YAKUMBUM	3	38	22	43
YAMANDIM	1	4	7	349
YAMBEN	2	19	33	29
YAMBIYAMBI	4	45	12	179
YAMINBOT	1	7	30	277
YAMINI	4	42	12	88
YAMONDINDEI	1	3	18	179
YANGET	4	43	22	88
YARAPOS	2	18	20	21
YARI / NUNGAWA	2	20	47	69
YASUM	3	39	14	43
YAUGIBA	2	19	34	28
YAUL	1	7	31	85
YAUUMBAK	4	46	7	300
YEI	4	57	13	111
YELOGU	4	47	8	98
YENITABAK	1	2	11	234
YERIKAI	4	46	8	171
YESIMBIT	1	3	19	179
YIBAB	2	19	35	29
YIGEI	4	52	7	102
YIMAS	1	4	8	349
YINDIGUM	1	5	16	94
YUMUNGU	2	20	48	67
YUNAITIRI - AIMI	4	54	8	290
YUO ISLAND	2	17	39	13
SYSTEM 1403				
ABAUIA	2	21	1	30
HANDARA	2	20	6	30
HAPMOGAM	2	20	9	30
HARINGEN	2	21	2	30
HARUWA	2	21	3	37
HAUBUGWE	2	21	4	37
INAGOMBI	3	22	8	39
KININYAN	2	21	7	30
KWOIRUO	2	20	17	30
MUNDJIHARANJI	2	21	8	37
MUSUWAGEN	2	21	9	30
NEIMO	2	21	10	30
NIAGOMBI	2	21	11	30
NIUMINDOGUM	2	20	21	37
NUNGORI	2	20	24	30
NYAKANDOGUN	2	21	13	30
PUARA	2	20	30	30
SENGORO	2	21	15	37
SUONDO	2	21	16	37
TOANUMBU	2	20	41	37
WAMOIN	2	21	17	37
WARIEMBA	2	21	18	30
YEKIMBOLYE 2	3	22	35	37

6.3 RURAL VILLAGES LISTED BY AGRICULTURAL SYSTEM **Province: 14 East Sepik**

SYSTEM 1404

Village	Dist	Div	Unit	RMU
AMBASOLI	3	22	1	30
AMBUKANJA	3	22	2	301
AMBUKWON	3	22	3	38
BELAGEL	3	26	3	33
BOIM	3	24	3	39
BUKIENDUAN	3	22	4	38
BUKINARA	3	25	1	38
DUNIGI	3	26	6	38
HAGERAPA	3	22	5	38
HARINGER	3	22	6	38
HIMBURU	3	25	2	38
HOLIK	3	24	5	38
KAIRIRU	3	26	9	33
KAIRIVU	3	22	11	38
KAMBELYI	3	22	9	38
KARAGORA	2	21	5	301
KARAPIA	3	22	10	38
KININIMBOGU	2	21	6	301
KUMBIWINGEI	3	23	4	57
KUMBUHUN	3	25	3	38
KUMUN	3	25	4	38
KUVARI	3	22	12	38
KWAGAMA	3	22	13	39
KWAGWI	3	22	14	38
KWAIAN	3	25	5	38
KWORABRI	3	22	15	301
KWORO	3	23	5	53
KWOWI	3	22	16	301
MAKAMBU	3	23	6	52
MAMBUK	3	22	17	38
MARABANJA	3	22	18	30
MARIGEI	3	22	19	39
NAMBARI 1	3	24	6	38
NIABOGU	2	21	12	30
NINDEPOLYE	3	24	8	38
NUMBURUON	3	22	20	38
NUMIASOLI	3	22	21	30
PACHAN	3	22	22	301
PAIMARU	3	22	23	52
PARINA	3	22	24	301
SAINA	3	22	25	33
SARA	3	24	9	39
SASANAMBOGU	2	21	14	30
SAUSENDUAN	3	22	26	30
SENGRI	3	22	27	39
SIMA	3	22	28	301
SIMBOMIE	3	22	29	39
SINIANGU	3	22	30	38
SOLI	3	22	31	30
WAMAINA	3	22	32	301
WARAGUMBE	3	22	33	30
WARAMURU	3	22	34	301
WINDJUAN	3	25	6	38
YARABOIM	3	24	10	38
YEKIMBOLYE 1	2	21	19	30

SYSTEM 1405

Village	Dist	Div	Unit	RMU
AGINGUN	3	24	1	39
AHIGILIUM	3	26	1	38
ALISU	3	26	2	38
ANUNYALIN	3	29	1	350
AUNYALIN 2	3	29	2	350
BALMO	3	24	2	39
BENGARAGUM	3	28	1	39
BEPANDU	3	27	1	39
BONAHOITAM	3	26	4	38
BUBUAMO	3	26	5	38
BUGITU	3	27	2	39
GWALIP 1	3	29	4	39
GWALIP 2	3	29	5	39
GWINYINGI	3	24	4	39
ILIPAIEM	3	26	7	38
KABOIBUS	3	26	8	38
KAMANJAN	3	23	1	39
KOMBENOBO	3	28	4	39
KURAGAMON	3	26	10	38
KUSANABU	3	28	5	39
KWARENGU	3	28	6	50
MALAPAIEM	3	26	11	38
MAMBAURU	3	27	3	39
MANGUL	3	41	11	59
NALA	3	40	29	50
NAMBARI 2	3	24	7	56
NAMBENOGWEN	3	29	8	350
NARAMGO	3	28	11	39
NIMBIHU	3	26	12	38
SAGISIK	3	28	12	39
SUAMBUKUM 1	3	28	13	51
SUAMBUKUM 2	3	28	14	51
SUANUMBU	3	27	4	39
ULUNKOHOITU	3	26	13	38
ULUPU	3	29	9	39
WAGUPMA	3	27	5	39
WAIGAKUM 2	3	28	16	39
WAIGAKUM 3	3	28	17	39
WALANGAI	3	27	6	39
WINGEI 1	3	27	7	39
WINGEI 2	3	27	8	39
WITUPE 1	3	23	8	56
WITUPE 2	3	23	9	53
WORA	3	31	18	39
YABOMINU	3	26	14	38
YALAHIN	3	29	10	350
YANGISAGU	3	28	18	59
YAUWANJUNGEI 1	3	28	19	51
YAUWANJUNGEI 2	3	28	20	39
YENGIO	3	28	21	39

SYSTEM 1406

Village	Dist	Div	Unit	RMU
ABUSIT	3	40	1	309
AURIMBIT	4	42	1	52
BANGLEGO	3	41	2	309
DUMBIT 1	3	28	2	59
DUMBIT 2	3	28	3	59

6.3 RURAL VILLAGES LISTED BY AGRICULTURAL SYSTEM **Province: 14 East Sepik**

Village	Dist	Div	Unit	RMU
GWINYINGI	3	40	8	46
JIPMAGO	3	41	3	95
KAUSAGA	3	41	4	50
KOSIMBI	4	42	7	52
KUNJINGINI 1	3	40	19	42
KUPMABIT	3	41	5	59
KWAUNJAMA 1	3	41	7	50
KWIMBA	4	42	8	52
KWIMBU 1	3	28	7	59
KWIMBU 2	3	28	8	59
LINGU	3	41	9	48
MAGUNGU	3	41	10	50
MIKAU	3	41	12	48
MIKAU 1	3	40	26	50
MIKAU 2	3	40	27	50
NAGOTIMBIT	4	42	11	53
NAINDA	3	41	13	50
PALGE	3	41	15	50
PATUKWA	3	41	16	50
SERANGWANTU	3	41	18	50
TENDEGUM	3	40	40	50
TUWAIKIM	3	40	42	40
WABINDUGUM	3	41	19	48
WOMBISA	3	41	20	50
YAKIWAR	3	41	21	50
YAMBIGO	3	41	22	48
YINDIKO	3	41	23	95
SYSTEM 1407				
APAMBI	3	41	1	48
BALAMPTA	3	40	2	46
BAPANDU	3	40	3	46
BOBMAGUM	3	40	4	48
CHIGIANGU	3	40	5	309
GULAKIM	3	40	6	46
GWAIRARU	3	40	7	50
INGABUS	3	34	18	46
ISOGUM 1	3	40	9	48
ISOGUM 2	3	40	30	46
JAMBITANGET	3	40	10	46
JIBAKIM	3	40	11	46
JIBAKO	3	40	12	46
KAMGE	3	40	13	309
KAUGIAK	3	40	14	46
KULUNGA	3	40	15	46
KUMUNUGUM 1	3	40	16	46
KUMUNUGUM 2	3	40	17	46
KUMUNUGUM 3	3	40	18	46
KUNJINGINI 2	3	40	20	309
KUTIGUM	3	40	21	46
KWANABANDU	3	40	22	46
KWATMAGUM	3	40	23	48
MANJUKWARUI	3	40	24	48
MAUNDU	3	40	25	46
MUL	3	40	28	309
NINGILIMBI 1	3	31	11	46
NINGILIMBI 2	3	31	12	46
NUMAKUM	3	31	13	40
NUMBUNGE 1-2	3	40	41	46
RUBUGUM 1	3	40	33	46
RUBUGUM 2	3	40	34	309
RUBUGUM 3	3	40	35	48
SARAGUM	3	40	36	46
SERAGAKIM 1	3	31	15	46
SERAGAKIM 2	3	31	16	46
SERANDU	3	31	17	40
STAPIGUM	3	40	37	48
SUNUHU 2	3	34	29	46
TALANGU	3	40	38	46
TATUMBA	3	40	39	46
UGUTAGWA	3	40	43	46
UMUNOKO	3	40	44	46
UTAMUP	3	34	33	46
WABINDUMAKAG	3	40	45	46
WAIGAMAGA	3	40	46	309
SYSTEM 1408				
AMAHOP	3	33	1	40
AMI	3	33	3	40
APANGAI 1	3	32	1	50
APANGAI 2	3	32	2	50
APERINGA WANGINGA	3	31	1	46
AUNYELIM	3	33	4	40
AUPIK 1	3	31	2	40
AUPIK 2	3	31	3	40
BAINYIK	3	30	1	40
BALOGWIL	3	30	2	43
BARANGA	3	30	3	350
BONGIORA	3	32	3	40
BUTIKA	3	33	5	43
CHAULAGUNEM	3	29	3	33
CHERAGUM	3	30	4	350
CHIGINAMBU	3	32	4	40
DAHABIGA	3	33	6	43
GAINIGUM	3	31	4	40
GWELIGUM 1	3	31	5	40
GWELIGUM 2	3	31	6	40
GWOINGWOIN	3	32	5	40
HIGIABIN	3	33	7	46
IMBIA	3	30	5	43
JAME	3	30	6	350
KALABU 1	3	30	7	350
KALABU 2	3	30	8	39
KINBANGWA	3	30	9	40
KUKWAL	3	32	6	40
KULELIGUM	3	32	7	40
KULUNGE	3	32	8	43
KUMINIBIS 1	3	30	10	40
KUMINIBIS 2	3	30	11	40
LEHINGA 1	3	31	7	46
LEHINGA 2	3	31	8	46
LONEIM	3	30	12	350
MAGAPITA	3	32	9	40
MALBA 1	3	28	9	39
MALBA 2	3	28	10	39
MAPRIK 1	3	30	13	309
MAPRIK 2	3	30	14	40
MAPUTMA	3	32	10	43

6.3 RURAL VILLAGES LISTED BY AGRICULTURAL SYSTEM **Province: 14 East Sepik**

Village	Dist	Div	Unit	RMU
MILAK	3	32	11	40
MISANGAI	3	33	8	40
NELIGUM	3	30	15	350
NELIGUM	3	31	9	40
NILU	3	33	9	43
NINDIKO	3	31	10	40
NINGALIMBI	3	33	10	40
NUNGALIM	3	33	11	43
SAHALI	3	33	12	40
SAMGIK	3	31	14	309
SAULIK	3	32	12	40
SUPA	3	33	13	40
WAIGAKUM 1	3	28	15	50
WAIKIM	3	32	13	40
WALAHUTA	3	33	15	40
WAMBAK	3	32	14	40
YAMELIKUM	3	32	15	40
YAMIKUM	3	30	16	350
YAMIL 1	3	29	11	350
YAMIL 2	3	29	12	350
YAMIL 3	3	29	13	350
SYSTEM 1409				
ALBINAMA 1	3	34	1	46
ALBINAMA 2	3	34	2	46
ALBINAMA 3	3	34	3	46
ALUWINGEI	3	34	4	46
AMAN	3	33	2	43
ARISILI	3	39	1	42
BALANGABADANGAL	3	34	6	46
BALIF	3	34	7	46
BANA	3	39	2	43
BENGIL	3	39	3	43
BOMBITA	3	34	8	46
BONAHOI	3	34	9	46
BULAMITA	3	34	11	46
HABINI	3	39	4	43
ILAHITA 1	3	34	15	46
ILAHITA 2	3	34	13	46
ILAHITA 4	3	34	12	46
ILAHITA 5	3	34	5	46
ILAHITA 6	3	34	10	46
ILAHOP	3	34	16	46
ILILIP/ILAHITA 3	3	34	14	46
INDIBI	3	34	17	46
KUMANAK WOR	3	34	19	46
MALAHUN	3	34	21	46
MOI 1	3	34	22	46
MOI 2	3	34	23	46
NAMANGO	3	34	24	46
SAHIK	3	39	6	42
SALATA	3	34	25	46
SAMARK	3	38	15	43
SAUNES	3	34	27	46
SELNAU	3	39	7	43
SELNI	3	39	8	43
SUMUL	3	39	9	42
SUNUHU 1	3	34	28	46
SUPARI	3	33	14	40
TAUANANGAS	3	34	30	46
TUMAMBA	3	39	10	43
URITA	3	34	32	46
WAAHUN	3	34	34	46
WAHLEN	3	39	11	42
WAMSAK 1	3	33	16	43
WAMSAK 2	3	33	17	43
WARAGON	3	34	35	46
WAREL	3	39	12	43
WARINGAMBI	3	39	13	43
WUN	3	38	20	42
SYSTEM 1410				
ALBULUM	3	37	1	43
APOS	3	36	3	45
ASILING	3	35	1	43
BEN	3	38	1	43
DAIHUNGAI	3	35	2	45
EMUI	3	35	3	43
KILMANGLEM	3	37	2	45
KUMBUM	3	38	6	43
KURUNGUNAM	3	37	3	43
LANINGUAP	3	37	4	45
LUWAITE	3	39	5	46
MEIWHAK	3	35	4	45
MERINGE	3	38	7	42
MISIM	3	35	5	43
MULENGAI	3	35	6	43
MUSENAU	3	35	7	43
MUSENDAI	3	35	8	46
MUSENGI	3	35	9	46
MUSILO	3	35	10	45
MUSIMBLEM	3	35	11	45
MUSINGWA	3	35	12	43
MUSINGWIK	3	35	13	45
MUYEM	3	38	9	43
NAMAISUM	3	35	14	43
NANAHA	3	35	15	43
NYAMBOLEI	3	35	16	45
PABNYEIP	3	38	12	43
PELNANDU	3	35	17	43
PEREMBIL	3	35	18	43
PINENG	3	37	7	43
RINGIN	3	38	13	43
SAROM	3	34	26	46
SOAIEF	3	38	18	43
TAU 1	3	36	17	45
TAU 2	3	36	16	46
TONG	3	38	19	42
TUMAN	3	35	19	45
WINGAMON	3	37	8	45
YAKIO	3	38	21	43
YAMBES	3	38	24	43
YASE	3	38	25	43
YASILE	3	38	26	43
YASUMBONET	3	38	27	43
YATANGEL	3	38	23	43
YAUATONG	3	37	11	43
YAURANG	3	38	29	43

6.3 RURAL VILLAGES LISTED BY AGRICULTURAL SYSTEM **Province: 14 East Sepik**

Village	Dist	Div	Unit	RMU
YERMAIN	3	35	20	45
YETNIMBUM	3	38	31	43
YETNYAM	3	38	30	43
SYSTEM 1411				
ABEGU	3	36	1	46
APANGAI	3	36	2	46
ASANAKOR	3	36	4	46
AUCHELI	3	36	5	46
BONGOIMASI	3	36	6	305
BONGOS	3	36	7	46
DAINA	3	36	8	46
INAKOR	3	36	9	40
KUATENGISI	3	36	10	298
KUBRIWAT	3	36	11	40
KUYOR	3	36	12	46
M'BRAS	3	34	20	46
MAMSI FUMATUMBU	3	36	13	298
MASALAGAR	3	36	14	46
NIMBIOK	3	37	5	43
NUNGWAIA	3	40	31	48
PA'APPUMA	3	40	32	46
PAGILO	3	37	6	45
SAUKI	3	36	15	46
TIMINGIR	3	34	31	46
WAMENAKOR	3	36	18	46
WASAMBU	3	36	19	46
WEIKOR	3	40	47	48
WESOR	3	36	20	46
WHAUKIA	3	36	21	46
YAGRUMBOK 1	3	37	9	45
YAGRUMBOK 2	3	37	10	45
YUBANAKOR 1	3	36	22	46
YUBANAKOR 2	3	36	23	46
SYSTEM 1412				
GAVIEN RESETTLEMENT	1	12	502	86
SYSTEM 1413				
ABAGAISU	4	57	1	114
AGRUMARA	1	7	1	86
AKURAN	1	7	2	277
ANDUA	1	7	4	277
ANGANG	1	9	1	295
ANGORAM	1	6	1	86
ARAI	4	55	1	290
ARANGUNAM	1	7	6	86
AUMI	4	57	3	300
AUNI	4	57	4	290
AVANGUMBA	1	7	8	277
AVATIP	4	46	1	300
BIAGA - WAGUMAS	4	49	2	278
BIWAT	1	7	9	277
BOBTEN	1	8	2	295
BRANDA	1	7	10	277
BRUGNOWI	4	46	2	300
BUGARAM	1	9	4	85
BUN	1	7	11	277
BURUMAI	4	54	2	290
CHENAPIAN	4	49	3	278
CHUIMONDO	1	8	4	295
GIRING	1	7	16	264
HAUNA	4	49	4	110
IABREM	4	57	5	111
IBU	4	57	6	290
IEMOMBUI	4	56	2	96
INIOK	4	56	3	278
KAMBARAMBA	1	8	6	86
KAMBOT	1	8	7	295
KAMBRINDO	1	6	4	86
KANDUANAM 1	1	6	6	86
KANDUANAM 2	1	6	7	86
KAUSIMBI	1	7	19	277
KAVIEMBEI	4	49	5	278
KINAKATEN	1	7	20	277
KOROGOPA	1	8	10	85
KRINJAMBI	1	6	9	86
KUBKAIN	4	49	6	278
KUNDIMA	1	7	21	277
MAGENDO 1	1	6	10	86
MAGENDO 2	1	6	11	86
MAGENDO 3 AND 4	1	6	12	86
MAIO	4	46	4	300
MALU	4	46	5	300
MOIM	1	6	14	86
MOWI	4	56	4	278
PAINU	4	57	8	290
PEKWE	4	57	9	114
PINANG	1	6	16	86
SAPALU	1	7	28	277
SIPISIPI	1	7	29	264
SWAGUP	4	49	9	300
TAMBALI	1	6	17	86
TAMBANUM	1	6	18	86
TAURI	4	49	10	278
UNANI	4	54	5	290
WANAMOI	4	57	11	118
WASKUK	4	49	11	96
WOMBUN	1	6	20	86
YAMBON	4	46	6	300
YAMBUNUMBU	4	49	12	300
YAR	1	9	20	85
YESSAN	4	46	9	300
YUERIMAN	1	6	21	86
SYSTEM 1414				
BAM ISLAND	2	16	3	11
BLUP BLUP ISLAND	2	16	4	9
BUKOI	2	16	1	6
KADOVAR ISLAND	2	16	5	10
KOIL ISLAND	2	16	6	7
TAKUR	2	16	21	6
UNIWARO	2	16	23	6
WEI ISLAND	2	16	25	8
SYSTEM 1415				
ANDAMBIT	1	4	1	288
BISORIO	1	3	2	349

6.3 RURAL VILLAGES LISTED BY AGRICULTURAL SYSTEM **Province: 14 East Sepik**

Village	Dist	Div	Unit	RMU
KWOTEFAFE	4	51	951	182
MEAKAMBUT	1	4	4	289
MONEIFAFE	4	51	952	183
SETIALE	4	51	954	182
SUMWARE	4	51	955	181
SYSTEM 1417				
ABLATAK	4	48	1	96
AGRAME	4	53	1	118
ALAKAI	4	49	1	299
AMAKI	4	48	2	96
AMBUKEN	4	48	3	95
ASAWUR	4	48	4	96
BIANANAMBA - KUMANSU	4	48	5	95
ITELINU	4	55	4	118
KAUIA - BAROPA	4	53	3	118
KAWAKA	4	48	6	96
KWAKAURU	4	48	7	96
LARIASO	4	50	4	109
MABISI	4	50	5	109
MEIWINI	4	50	7	152
NAGERI	4	48	8	95
NAKEK	4	50	8	109
NEIN	4	50	9	292
NEKIEI	4	50	10	292
OUM 1	4	49	7	278
OUM 2	4	49	8	278
PANEWAI	4	56	5	278
PI 1 AND 2	4	50	11	109
SAURINAPI	4	50	12	109
SINEN	4	50	13	292
SIO	4	50	14	109
SOWANO	4	50	15	109
TAUNANAPI	4	50	17	109
TIGI	4	53	4	118
UWAU	4	53	5	118
WALIO	4	50	18	292
WANIAP	4	53	6	118
WARASAI	4	48	9	299
WASORI	4	50	20	292
WAURINAPI	4	50	21	311
WOBURU	4	53	7	118
YABATAUWE	4	50	22	109
YAUNGET	4	48	11	96
YENUAI	4	53	8	121
SYSTEM 1418				
AIBOM	4	45	1	300
ANGRIMAN	1	6	2	86
ARINJONE	4	45	2	294
INDABU	4	44	1	86
INDINGAI	4	45	4	300
JAPANAUT	4	44	2	86
JAPANDAI	4	44	3	300
KAMINIMBIT	1	6	5	86
KANDANGAI	4	44	4	86
KANGANAMAN	4	44	5	86
KARARAU	1	6	8	86
KILIMBIT	4	45	5	176
KOROGO	4	44	6	86
MALINGAI	4	44	7	86
MILAE	4	45	8	175
MINDIMBIT	1	6	13	86
NYAURENGAI	4	44	8	86
PARAMBEI	4	44	9	86
SUAPMERI	4	44	10	86
TEGAUI	4	44	11	86
TIMBUNMERI	4	45	10	174
TIMUNKE	1	6	19	86
WOMBUN	4	45	11	294
YAMANUMBU	4	44	12	300
YAMANUMBU	4	48	10	95
YENICHANMANGUA	4	44	14	86
YENTCHAN	4	44	13	86
SYSTEM 1419				
ADJORA	1	10	1	85
AGRANT	1	10	2	85
AKAIAN	1	10	3	303
ANGISI	1	9	2	85
ANJO	1	9	3	85
ARAMUNDI	1	10	4	85
ARANGO	1	10	5	303
BOBATEN	1	8	1	85
BUTEN	1	8	3	85
DUWAR	1	10	6	85
ERONEN	1	10	7	85
GAPUN	1	14	1	83
JANGIT	1	10	8	85
JETA	1	10	9	85
KAMBUKU	1	8	8	85
KEVIM	1	9	5	270
KIROP	1	10	10	85
KITCHIKAN	1	10	11	85
KOMTING	1	9	6	270
KONGRUM	1	9	7	85
LEMBUN	1	9	8	85
LOL	1	8	12	85
MANMONG	1	10	12	85
MANU	1	8	13	85
MINIAS	1	9	9	270
MOLI	1	9	10	85
MONGITOK	1	9	11	85
MONGUM	1	9	13	270
MUNYITEN	1	8	14	85
MURKEN	1	10	13	85
NAURUK	1	10	14	85
OGOMANIA	1	10	15	85
OMBOS	1	10	16	85
OREMAI	1	10	17	85
PALIPAN	1	10	18	85
PAMBAN	1	8	15	85
PANKIN	1	10	19	303
PANYATEN	1	8	17	85
PATAKA	1	8	16	85
PINAM	1	10	20	85
POKORAN	1	10	21	85

6.3 RURAL VILLAGES LISTED BY AGRICULTURAL SYSTEM **Province: 14 East Sepik**

Village	Dist	Div	Unit	RMU
PUSHYTEN	1	8	18	85
RATEN	1	8	19	85
RONGWIK	1	9	15	270
SENAE	1	14	2	83
SIMBIRI	1	8	20	85
SORI	1	9	16	335
TAMO AND BUTA	1	9	17	85
TOGO	1	9	18	270
WAMA	1	10	22	85
WATAM	1	14	3	82
WONGAN	1	14	4	82
WORI	1	8	22	85
YAMEN	1	8	23	85
SYSTEM 1420				
BAM	2	16	2	5
KORAGUR	2	16	7	3
SHAGUR	2	16	13	3
SHAM	2	16	14	3
MARAI	2	16	9	5
MUSHU 1	2	16	10	5
RUMLAL	2	16	12	3
SIBABARU	2	16	15	5
SIRASIN	2	16	17	3
SMALL MUSCHU	2	16	18	5
SUP	2	16	19	5
SURAI	2	16	20	3
TARAWAI ISLAND	2	16	22	1
WALIS ISLAND	2	16	24	2
YAWIK	2	16	8	4
YUWUN	2	16	11	3

APPENDIX A.1

NATIONAL POPULATION CENSUS PROVINCIAL CODES

Province	Abbreviation	Code
Western	WES	01
Gulf	GUL	02
Central	CEN	03
National Capital District	NCD	04
Milne Bay	MBP	05
Oro (Northern)	ORO	06
Southern Highlands	SHP	07
Enga	ENG	08
Western Highlands	WHP	09
Simbu (Chimbu)	SIM	10
Eastern Highlands	EHP	11
Morobe	MOR	12
Madang	MAD	13
East Sepik	ESP	14
West Sepik (Sandaun)	WSP	15
Manus	MAN	16
New Ireland	NIP	17
East New Britain	ENB	18
West New Britain	WNB	19
Bougainville	NSP	20

APPENDIX A.2

NATIONAL POPULATION CENSUS CODES FOR DISTRICTS AND CENSUS DIVISIONS, EAST SEPIK PROVINCE[1]

Code	Division
01	**ANGORAM DISTRICT**
01	KARAWARI
02	ALANBLAK
03	KOROSAMERI
04	ARAFUNDI
05	KWONGAI
06	MIDDLE SEPIK
07	YUAT RIVER
08	GRASS COUNTRY
09	BANARO
10	PORAPORA
11	LOWER SEPIK
12	MARIENBERG HILLS
13	MURIK LAKES
14	EAST COAST
02	**WEWAK DISTRICT**
16	WEWAK ISLANDS
17	BUT-BOIKEN
18	WEWAK LOCAL
19	TURUBU
20	WEWAK INLAND
21	EAST YANGORU
03	**MAPRIK DISTRICT**
22	YANGORU
23	SEPIK
24	NINDEPOLYE
25	KUMUN
26	KABOIBUS
27	WINGEI
28	TAMAUI
29	YAMIL
30	MAPRIK
31	WORA
32	MAMBLEP
33	ALBIGES-BUMBITA
34	MUHIANG-BUMBITA
35	URAT
36	GAWANGA
37	URIM
38	KOMBIO
39	WAM
40	NORTH WOSERA
41	SOUTH WOSERA
04	**AMBUNTI DISTRICT**
42	SEPIK PLAINS
43	BURUI KUNAI
44	MAIN RIVER
45	CHAMBRI LAKES
46	UPPER SEPIK
47	WASKUK HILLS
48	NUMAU ABLATAK
49	WONGAMUSUN
50	WALIO SIO
51	NIKSEK
52	SAMSAI
53	WANIAP MAY
54	ABEI MAY
55	ARAI MAY
56	SEPIK MAY
57	CENTRAL MAY

[1] The Census Division names and codes are from the 1980 National Population Census. However, because the district definitions in some provinces changed between the 1980 and 1990 censuses, and because districts are important for provincial administrative purposes, the district names and codes are from the 1990 National Population Census. Some provinces have further changed district definitions since 1990 but these are not shown.

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